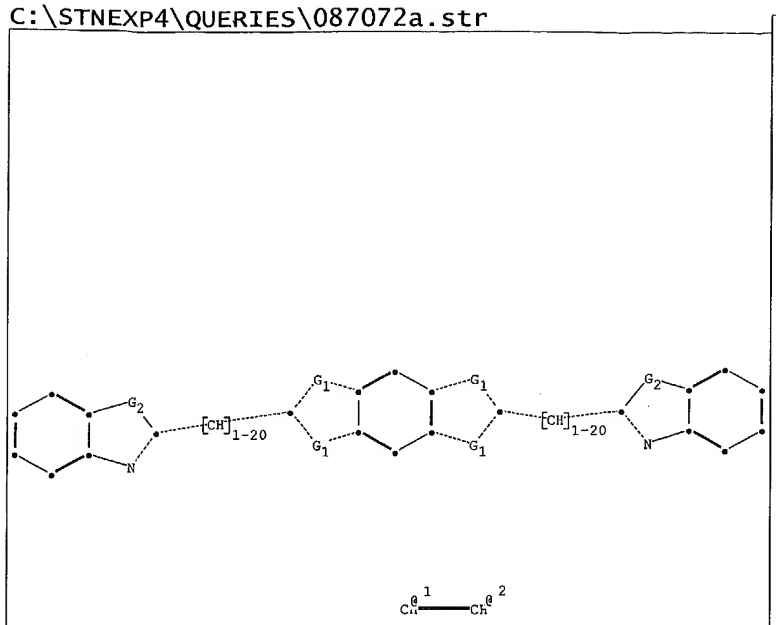
C:\STNEXP4\QUERIES\087072a.str



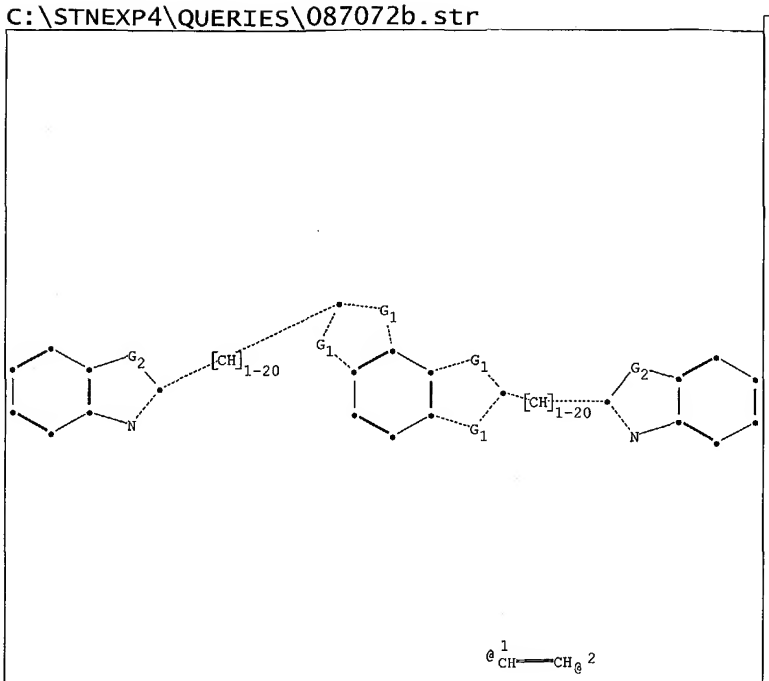
chain nodes :
31 32 38 39
ring nodes :
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25
26 27 28 29 30
chain bonds :
20-31 23-32 26-32 29-31 38-39
ring bonds :
1-2 1-6 2-3 2-28 3-4 3-30 4-5 5-6 5-25 6-27 7-8 7-12 8-9 9-10 10-11 11-12
11-19 12-21 13-14 13-18 14-15 14-22 15-16 15-24 16-17 17-18 19-20 20-21 22-23
23-24 25-26 26-27 28-29 29-30
exact/norm bonds :
2-28 3-30 5-25 6-27 11-19 12-21 14-22 15-24 19-20 20-21 20-31 22-23 23-24
23-32 25-26 26-27 26-32 28-29 29-30 29-31 38-39
normalized bonds :
1-2 1-6 2-3 3-4 4-5 5-6 7-8 7-12 8-9 9-10 10-11 11-12 13-14 13-18 14-15
15-16 16-17 17-18

G1:C,O,S,N,Se,Te,[*1-*2]

G2:C,O,S,CH2,[*1-*2]

Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom 11:Atom
12:Atom 13:Atom 14:Atom 15:Atom 16:Atom 17:Atom 18:Atom 19:Atom 20:Atom 21:Atom
22:Atom 23:Atom 24:Atom 25:Atom 26:Atom 27:Atom 28:Atom 29:Atom 30:Atom 31:CLASS
32:CLASS 38:CLASS 39:CLASS

C:\STNEXP4\QUERIES\087072b.str



chain nodes :
31 32 33 34
ring nodes :
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25
26 27 28 29 30
chain bonds :
8-32 11-31 26-31 29-32 33-34
ring bonds :
1-2 1-6 2-3 3-4 3-10 4-5 4-12 5-6 5-7 6-9 7-8 8-9 10-11 11-12 13-14 13-18
14-15 15-16 16-17 17-18 17-25 18-27 19-20 19-24 20-21 20-28 21-22 21-30 22-23
23-24 25-26 26-27 28-29 29-30
exact/norm bonds :
3-10 4-12 5-7 6-9 7-8 8-9 8-32 10-11 11-12 11-31 17-25 18-27 20-28 21-30
25-26 26-27 26-31 28-29 29-30 29-32 33-34
normalized bonds :
1-2 1-6 2-3 3-4 4-5 5-6 13-14 13-18 14-15 15-16 16-17 17-18 19-20 19-24
20-21 21-22 22-23 23-24

G1:C,O,S,N,Se,Te,[*1-*2]

G2:C,O,S,CH2,[*1-*2]

Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom 11:Atom
12:Atom 13:Atom 14:Atom 15:Atom 16:Atom 17:Atom 18:Atom 19:Atom 20:Atom 21:Atom
22:Atom 23:Atom 24:Atom 25:Atom 26:Atom 27:Atom 28:Atom 29:Atom 30:Atom 31:CLASS
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L2             STRUCTURE UPLOADED
L3           3 S L1
L4         123 S L1 FULL
L5           1 S L2
L6         119 S L2 FULL

     FILE 'CAPLUS' ENTERED AT 10:45:55 ON 23 SEP 2003
L7          65 S L4 OR L6

=> d que l7 stat
L1             STR

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY -  AVAILABLE VIA OFFLINE PRINT *

Structure attributes must be viewed using STN Express query preparation.
L2             STR

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY -  AVAILABLE VIA OFFLINE PRINT *

Structure attributes must be viewed using STN Express query preparation.
L4         123 SEA FILE=REGISTRY SSS FUL L1
L6         119 SEA FILE=REGISTRY SSS FUL L2
L7          65 SEA FILE=CAPLUS ABB=ON  PLU=ON  L4 OR L6


=> d 1-65 ibib iabs hitstr
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L7 ANSWER 1 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2002:676106 CAPLUS
DOCUMENT NUMBER: 137:202633
TITLE: Fluorescent cyanine dyes and their use in labeling of biomolecules
INVENTOR(S): Braman, Jeffrey Carl; Anderson, Jack
PATENT ASSIGNEE(S): Stratagene, USA
SOURCE: PCT Int. Appl., 56 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

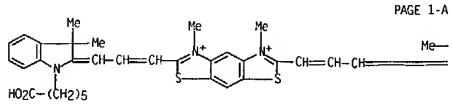
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002068537	A2	20020906	WO 2002-US6225	20020228
W: AU, CA, JP				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
US 2003088109	A1	20030508	US 2002-87072	20020228

PRIORITY APPLN. INFO.: US 2001-272131P P 20010228
OTHER SOURCE(S): MARPAT 137:202633
ABSTRACT:
The invention relates to fluorescent cyanine dyes, and esp. to water-sol. fluorescent cyanine dyes that contain addnl. sites for attachment to biomols. They have distinct fluorescence characteristics that permit their use in any assay or method suited to water-sol. fluorescent dyes, and esp. to assays requiring a plurality of distinguishable fluorescent markers. In an example, 2,6-dimethylbenzo[1.2.5.4]bisthiazole was methylated with Me2SO4 and the product was treated with 2-(2-anilinovinyl)-1-(5-carboxypentyl)-3,3-dimethylindolium bromide to give a fluorescent dye. Oligonucleotide probe labeling was illustrated.

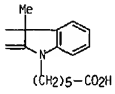
IT **454485-02-0P 454485-06-4P**
RL: BUU (Biological use, unclassified); IMF (Industrial manufacture); TEM (Technical or engineered material use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(dye; prodn. of fluorescent cyanine dyes for biomol. labels)
RN 454485-02-0 CAPLUS
CN Benzo[1,2-d:5,4-d']bisthiazolium, 2,6-bis[3-[1-(5-carboxypentyl)-1,3-dihydro-3,3-dimethyl-2H-indol-2-ylidene]-1-propenyl]-3,5-dimethyl- (9CI) (CA INDEX NAME)

L7 ANSWER 1 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

PAGE 1-A

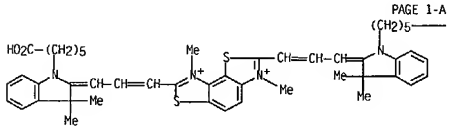


PAGE 1-B



RN 454485-06-4 CAPLUS
CN Benzo[1,2-d:3,4-d']bisthiazolium, 2,7-bis[3-[1-(5-carboxypentyl)-1,3-dihydro-3,3-dimethyl-2H-indol-2-ylidene]-1-propenyl]-3,8-dimethyl- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

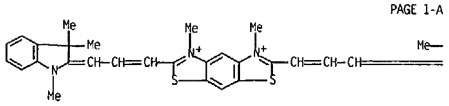
L7 ANSWER 2 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2002:242416 CAPLUS
DOCUMENT NUMBER: 137:54471
TITLE: Photophysics of symmetric biscyanines and their aggregation in solutions
AUTHOR(S): Yuzhakov, V. I.; Blinova, K. G.; Ishchenko, A. A.; Levshin, L. V.; Patsaeva, S. V.; Pekhova, A. V.
CORPORATE SOURCE: Mosk. Gos. Univ. im. M. V. Lomonosova, Moscow, Russia
SOURCE: Optika Atmosfery i Okeana (2001), 14(11), 1041-1045
CODEN: OAOKEM; ISSN: 0869-5695
PUBLISHER: Institut Optiki Atmosfery
DOCUMENT TYPE: Journal
LANGUAGE: Russian
ABSTRACT:
Photophys. processes and mol. aggregation of polymethine dyes was studied in ethanol solns. and in poly(vinyl alc.) matrixes. Interaction energy of chromophores, and dipole transition moments of biscyanines are calcd. Fluorescence lifetime and quantum yield of intersystem crossing were obtained using nonlinear fluorometry. Hypsochromic shift of the fluorescence max. of biscyanine dyes in laser exposed polymer films is explained by nonuniform broadening of the dye electronic energy levels.

IT **19695-86-4 19695-88-6 391469-01-5**
391469-08-2
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process)
(photophys. processes and mol. aggregation of sym. biscyanines in ethanol solns. and in poly(vinyl alc.) matrixes)
RN 19695-86-4 CAPLUS
CN Benzo[1,2-d:5,4-d']bisthiazolium, 2,6-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,5-dimethyl-, bis(methyl sulfate) (9CI) (CA INDEX NAME)

CM 1

CRN 23104-60-1
CMF C38 H40 N4 S2

PAGE 1-A



L7 ANSWER 2 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

PAGE 1-B

CM 2

CRN 21228-90-0
CMF C H3 O4 S

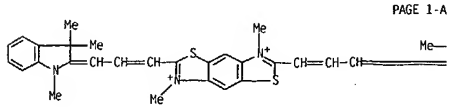
Me—O—SO3-

RN 19695-88-6 CAPLUS
CN Benzo[1,2-d:4,5-d']bisthiazolium, 2,6-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,7-dimethyl-, bis(methyl sulfate) (9CI) (CA INDEX NAME)

CM 1

CRN 21839-56-5
CMF C38 H40 N4 S2

PAGE 1-A



PAGE 1-B

L7 ANSWER 2 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)
CM 2

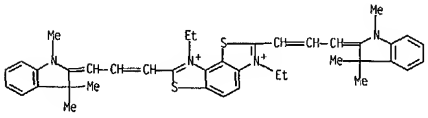
CRN 21228-90-0
CMF C H3 O4 S

Me–O–SO3-

RN 391469-01-5 CAPLUS
CN Benzo[1,2-d:3,4-d']bisthiazolium, 2,7-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,8-diethyl-, diperchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 391469-00-4
CMF C40 H44 N4 S2



CM 2

CRN 14797-73-0
CMF Cl O4

RN 391469-08-2 CAPLUS
CN Benzo[1,2-d:4,3-d']bisthiazolium, 2,7-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,6-dimethyl-, bis(methyl sulfate) (9CI) (CA INDEX NAME)

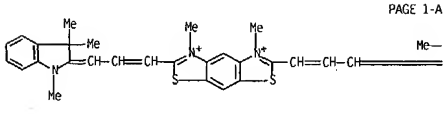
L7 ANSWER 3 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2001:437118 CAPLUS
DOCUMENT NUMBER: 136:119848
TITLE: Spectroscopic investigation of biscyanine dyes aggregation in solutions
AUTHOR(S): Blinova, K. G.; Ishchenko, A. A.; Mushkalo, I. L.; Papaeva, S. V.; Pekhota, A. V.; Yuzhakov, V. I.
CORPORATE SOURCE: Kafedra Obshchei Fiz., Mosk. Gos. Univ. im. M. V. Lomonosova, Moscow, Russia
SOURCE: Vestnik Moskovskogo Universiteta. Seriya 3: Fizika, Astronomiya (2001), (2), 34-38
CODEN: VMUFAO; ISSN: 0579-9392
PUBLISHER: Izdatel'stvo Moskovskogo Universiteta
DOCUMENT TYPE: Journal
LANGUAGE: Russian
ABSTRACT:
Absorption and luminescence spectra are recorded for aq. and ethanol solns. of four biscyanine dyes existing in the form of chem. bound dimers.

IT 19695-86-4 19695-88-6 391469-01-5
391469-08-2
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process)
(spectroscopic investigation of biscyanine dyes aggregation in solns.)
RN 19695-86-4 CAPLUS
CN Benzo[1,2-d:5,4-d']bisthiazolium, 2,6-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,5-dimethyl-, bis(methyl sulfate) (9CI) (CA INDEX NAME)

CM 1

CRN 23104-60-1
CMF C38 H40 N4 S2

PAGE 1-A



L7 ANSWER 2 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)
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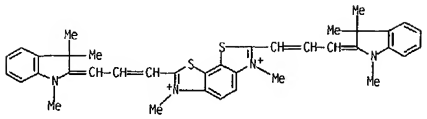
CMF C38 H40 N4 S2



CM 2

CRN 21228-90-0
CMF C H3 O4 S

Me–O–SO3-

L7 ANSWER 3 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

PAGE 1-B

CM 2

CRN 21228-90-0
CMF C H3 O4 S

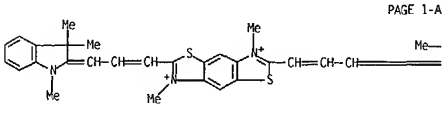
Me–O–SO3-

RN 19695-88-6 CAPLUS
CN Benzo[1,2-d:4,5-d']bisthiazolium, 2,6-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,7-dimethyl-, bis(methyl sulfate) (9CI) (CA INDEX NAME)

CM 1

CRN 21839-56-5
CMF C38 H40 N4 S2

PAGE 1-A



PAGE 1-B

L7 ANSWER 3 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)
CM 2

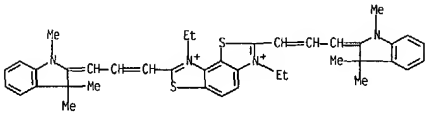
CRN 21228-90-0
CMF C H3 O4 S

Me–O–SO3-

RN 391469-01-5 CAPLUS
CN Benzo[1,2-d:3,4-d']bisthiazolium, 2,7-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,8-diethyl-, diperchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 391469-00-4
CMF C40 H44 N4 S2



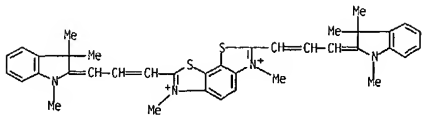
CM 2

CRN 14797-73-0
CMF Cl O4

RN 391469-08-2 CAPLUS
CN Benzo[1,2-d:4,3-d']bisthiazolium, 2,7-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,6-dimethyl-, bis(methyl sulfate) (9CI) (CA INDEX NAME)

L7 ANSWER 3 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)
CM 1

CRN 21834-79-7
CMF C38 H40 N4 S2



CM 2

CRN 21228-90-0
CMF C H3 O4 S

Me–O–SO3-

L7 ANSWER 4 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2000:227424 CAPLUS
DOCUMENT NUMBER: 132:271740
TITLE: Semiconductor particles sensitized with methine dye
INVENTOR(S): Watanabe, Tetsuya
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Eur. Pat. Appl., 42 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 991092	A2	20000405	EP 1999-119368	19990929
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2000103978	A2	20000411	JP 1998-278022	19980930
JP 2000195570	A2	20000714	JP 1998-367616	19981224
US 6335481	B1	20020101	US 1999-407942	19990929
PRIORITY APPLN. INFO.:			JP 1998-278022 A	19980930
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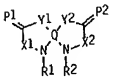


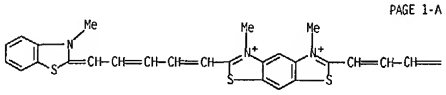
I

ABSTRACT:
Semiconductor particles used in a photoelec. devices are sensitized by an adsorbed methine dye represented by the formula I wherein Q is a tetravalent arom. group; each of X1 and X2 independently is a single bond or -CR3=CR4-; when X1 is a single bond, Y1 is -O-, -S-, -Se-, -NR5-, -CR6R7-, or -CR8=CR9-; when X1 is -CR3=CR4-, Y1 is a single bond; when X2 is a single bond, Y2 is -O-, -S-, -Se-, -NR5-, -CR6R7-, or -CR8=CR9-; when X2 is -CR3=CR4-, Y2 is a single bond; each of R1 and R2 independently is an aliph. group or an arom. group; each of R3-9 independently is H or an alkyl group; each of P1 and P2 independently is =L1Bo, =L2=Ak, or =L3=Ar; each of L1 and L3 is a methine chain having an odd no. of methine groups; L2 is a methine chain having an even no. of methine groups; Bo is an onium form of a basic nucleus; Ak is an acidic nucleus of a keto type; Ar is an arom. nucleus.

IT 263359-71-3
RL: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses)
(photoelec. devices contg. semiconductor particles photosensitized by)

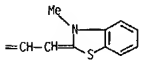
L7 ANSWER 4 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)
RN 263359-71-3 CAPLUS
CN Benzo[1,2-d:5,4-d']bisthiazolium, 3,5-dimethyl-2,6-bis[5-(3-methyl-2(3H)-benzothiazolylidene)-1,3-pentadienyl]-, diiodide (9CI) (CA INDEX NAME)

PAGE 1-A



●2 I-

PAGE 1-B



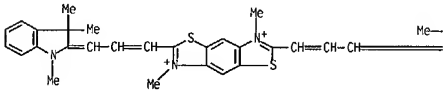
L7 ANSWER 5 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1999:475129 CAPLUS
DOCUMENT NUMBER: 131:235663
TITLE: Influence of the interaction of chromophores of bis-cyanine dyes on the photogeneration of charge carriers in poly(N-epoxypropylcarbazole) films
AUTHOR(S): Davidenko, N. A.; Ishchenko, A. A.; Mushkalo, I. L.; Pavlov, V. A.
CORPORATE SOURCE: Taras Shevchenko Kiev National University, Kiev, 252033, Ukraine
SOURCE: Theoretical and Experimental Chemistry (Translation of Teoreticheskaya i Eksperimental'naya Khimiya) (1999), Volume Date 1998, 34(6), 343-347
CODEN: TEXCAK; ISSN: 0040-5760
PUBLISHER: Consultants Bureau
DOCUMENT TYPE: Journal
LANGUAGE: English
ABSTRACT:
An increase in photocond. and in the extinguishing effect of an external elec. field has been obsd. in the photoluminescence of doped poly(N-epoxypropylcarbazole) films during changing from monocyanine dyes to the corresponding bis-cyanines. It was concluded that an increase of photogeneration of triplet electron-hole pairs occurs with such replacement of the dye and that dissocn. of the pairs was responsible for the photocond.

IT 19695-88-6
RL: MOA (Modifier or additive use); USES (Uses)
(photosensitizer; photogeneration of charge carriers in cyanine dye-doped poly(N-epoxypropylcarbazole) films)
RN 19695-88-6 CAPLUS
CN Benzo[1,2-d:4,5-d']bisthiazolium, 2,6-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,7-dimethyl-, bis(methyl sulfate) (9CI) (CA INDEX NAME)

CM 1

CRN 21839-56-5
CMF C38 H40 N4 S2

PAGE 1-A



L7 ANSWER 5 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

PAGE 1-B

CM 2

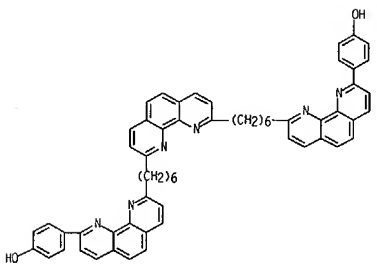
CRN 21228-90-0
CMF C H3 O4 S

Me—O—SO3-

REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

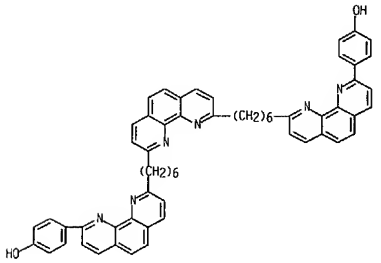
L7 ANSWER 6 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1996:465900 CAPLUS
DOCUMENT NUMBER: 125:247779
TITLE: Copper(I) template synthesis of a 4-crossing [2]-catenane
AUTHOR(S): Nierengarten, Jean-Francois; Dietrich-Buchecker, Christiane O.; Sauvage, Jean-Pierre
CORPORATE SOURCE: Lab. Chim.-Miner., Univ. Louis-Pasteur, Strasbourg, 67070, Fr.
SOURCE: New Journal of Chemistry (1996), 20(6), 685-693
CODEN: NJCHE5; ISSN: 1144-0546
PUBLISHER: Gauthier-Villars
DOCUMENT TYPE: Journal
LANGUAGE: English
ABSTRACT:
The first synthesis of a 4-crossing [2]-catenane via a copper(I) template approach is described. Its topol. isomer, the singly interlocked [2]-catenane, was also prepd. The synthesis of both [2]-catenanes greatly facilitated their structural identification. The comparison of their NMR and mass spectra allowed unambiguous assignment of their topol.

IT 153399-54-3DP, copper complexes 153399-54-3P
164934-62-7P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(copper(I) template synthesis of a 4-crossing [2]-catenane)
RN 153399-54-3 CAPLUS
CN Phenol, 4,4'-[1,10-phenanthroline-2,9-diylbis(6,1-hexanediyl-1,10-phenanthroline-9,2-diyl)]bis- (9CI) (CA INDEX NAME)

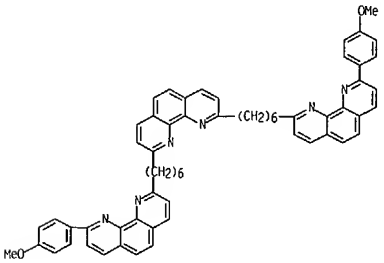


RN 153399-54-3 CAPLUS
CN Phenol, 4,4'-[1,10-phenanthroline-2,9-diylbis(6,1-hexanediyl-1,10-

L7 ANSWER 6 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)
phenanthroline-9,2-diyl)]bis- (9CI) (CA INDEX NAME)



RN 164934-62-7 CAPLUS
CN 1,10-Phenanthroline, 2,9-bis[6-[9-(4-methoxyphenyl)-1,10-phenanthrolin-2-yl]hexyl]- (9CI) (CA INDEX NAME)



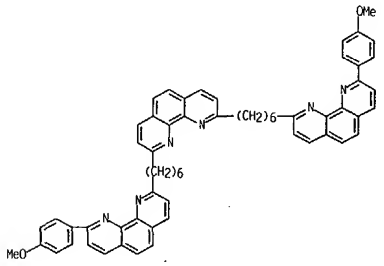
L7 ANSWER 7 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1995:604813 CAPLUS
DOCUMENT NUMBER: 123:73385
TITLE: Transition-metal-directed threading of molecular strings into coordinating rings: synthetic aspects and kinetic study of the dethreading process
AUTHOR(S): Chambron, Jean-Claude; Dietrich-Buchecker, Christiane; Nierengarten, Jean-Francois; Sauvage, Jean-Pierre; Solladie, Nathalie; Albrecht-Gary, Anne-Marie; Meyer, Michel
CORPORATE SOURCE: Lab. Chimie Organo-Minerale, Faculte Chimie, Strasbourg, 67000, Fr.
SOURCE: New Journal of Chemistry (1995), 19(4), 409-26
CODEN: NJCHE5; ISSN: 1144-0546
PUBLISHER: Gauthier-Villars
DOCUMENT TYPE: Journal
LANGUAGE: English
GRAPHIC IMAGE:

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

ABSTRACT:
Cu(I) was used as a template species to thread a mol. string contg. one, two or three chelating phenanthroline units into a coordinating macrocycle (I)(m30). Whereas any of the bis-phenanthroline mol. strings (II; Y = Me, Z = p-C6H4C6H4; Y = OMe, Z = p-C6H4O-p-C6H4, (CH2)4) (T1, T2 and T3) can be threaded into two macrocycles, the case of the tris-phenanthroline chelate III (T4) is less simple. Two of the neighboring three binding sites complex one Cu+ ion intramolecularly and the 3rd phenanthroline pendant coordination site is available for Cu+-directed threading of the macrocycle m-30. This particular behavior is probably related to the nature of the bridge linking the phenanthroline chelates (-(CH2)6-). Dethreading expts. were run using the cyanide anion as a decomplexing reagent. In all cases, dissocn. takes place via two-step mechanisms. In the case of the bis-phenanthroline threads, the rates depend on the nature of the bridges linking the phenanthroline chelates. For Cu2[T1(m-30)2]2+ and Cu2[T2(m-30)2]2+ (rigid arom. bridges), the rate consts. are .apprx.10 M-1 s-1 for the faster step and .apprx.2.5 M-1 s-1 for the slower step. For Cu2[T3(m-30)2]2+ (-(CH2)4-), the rate consts. are much higher: 1120 and 354 M-1 s-1, resp. Finally, when the tris-phenanthroline-contg. thread is involved (the case of Cu2[T4(m-30)]2+), the rate consts. are 1790 and 324 M-1 s-1 for the faster and slower steps, resp. In the latter case, the fast process probably corresponds to an unfolding of the thread with demetalation of the 1st Cu site, whereas the slower step is a real dethreading reaction, analogous to the 2nd dissocn. step of the other dicopper(I) complexes.

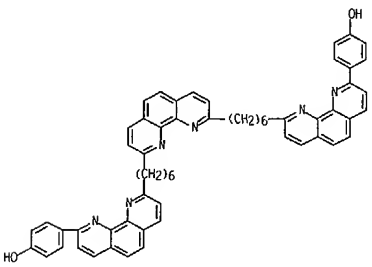
L7 ANSWER 7 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

IT 164934-62-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(for prepn. of copper macrocycle complexes with phenanthroline-contg. mol. strings)
RN 164934-62-7 CAPLUS
CN 1,10-Phenanthroline, 2,9-bis[6-[9-(4-methoxyphenyl)-1,10-phenanthrolin-2-yl]hexyl]- (9CI) (CA INDEX NAME)



L7 ANSWER 8 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1994:164144 CAPLUS
DOCUMENT NUMBER: 120:164144
TITLE: Synthesis of a doubly interlocked [2]-catenane
AUTHOR(S): Nierengarten, Jean Francois; Dietrich-Buchecker, Christiane O.; Sauvage, Jean Pierre
CORPORATE SOURCE: Inst. Chim., Univ. Louis Pasteur, Strasbourgh, 67000, Fr.
SOURCE: Journal of the American Chemical Society (1994), 116(1), 375-6
CODEN: JACSAT; ISSN: 0002-7863
DOCUMENT TYPE: Journal
LANGUAGE: English
ABSTRACT:
A four-crossing [2]-catenane has been prepd. for the first time. The synthesis principle is based on the three-dimensional template effect of copper(I). In a first step, an intermediate contg. a double-stranded trimetallic helicoidal complex was generated. The cyclization step afforded the doubly interlocked [2]-catenate which led to the free ligand after demetalation. The more classical two-crossing catenane could also be isolated and compared to its doubly interlocked topol. stereoisomer. Both catenanes were characterized by 1H NMR and mass spectrometry (ES-MS and FAB-MS).

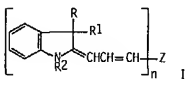
IT 153399-54-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(reactant, in prepn. of doubly interlocked [2]-catenane)
RN 153399-54-3 CAPLUS
CN Phenol, 4,4'-[1,10-phenanthroline-2,9-diylbis(6,1-hexanediyl-1,10-phenanthroline-9,2-diyl)]bis- (9CI) (CA INDEX NAME)



L7 ANSWER 9 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1991:482206 CAPLUS
DOCUMENT NUMBER: 115:82206
TITLE: Electrophotographic photoreceptor using indoline compound as charge-transporting agent
INVENTOR(S): Mishima, Masayuki; Yamazaki, Harumasa; Matsuse, Takashi; Sakuma, Tadashi; Togashi, Hiroyasu
PATENT ASSIGNEE(S): Kao Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 15 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 02285358	A2	19901122	JP 1989-107020	19890426

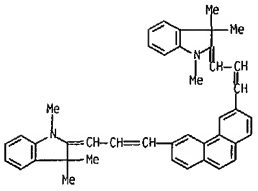
PRIORITY APPLN. INFO.: JP 1989-107020 19890426
OTHER SOURCE(S): MARPAT 115:82206
GRAPHIC IMAGE:



ABSTRACT:
The title photoreceptor comprises an elec. conductive support, a charge-generating layer, and a charge-transporting layer contg. a indoline compd. I [R, R1, R2 = (branched) alkyl which may be substituted, (substituted) aryl, Z = (substituted) arom. hydrocarbon, heterocycle, n = 2, 3]. A photoreceptor using .chi.-type metal-free phthalocyanine and I (R = R1 = Me, R2 = Ph, Z = p-phenylene, n = 2) showed good photosensitivity and durability in repeated use.

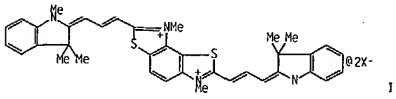
IT 134560-20-6
RL: USES (Uses)
(charge-transporting agent, electrophotog. photoreceptor contg.)
RN 134560-20-6 CAPLUS
CN 1H-Indole, 2,2'-(3,6-phenanthrenediyldi-2-propen-3-yl-1-ylidene)bis[2,3-dihydro-1,3,3-trimethyl- (9CI) (CA INDEX NAME)

L7 ANSWER 9 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)



L7 ANSWER 10 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1989:459538 CAPLUS
DOCUMENT NUMBER: 111:59538
TITLE: Association of biscyanine dyes with rigidly connected chromophores in solvents of different polarity
AUTHOR(S): Ishchenko, A. A.; Mushkalo, I. L.; Derevyanko, N. A.; Zakhidov, U.; Khidirova, T. Sh.; Nizamov, N.
CORPORATE SOURCE: Inst. Org. Khim., Kiev, USSR
SOURCE: Journal of Information Recording Materials (1989), 17(1), 39-51
CODEN: JIRMEA; ISSN: 0863-0453
DOCUMENT TYPE: Journal
LANGUAGE: Russian
GRAPHIC IMAGE:



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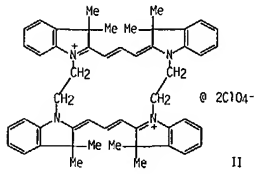


II

ABSTRACT:
In polar solvents, assocn. of the cationic biscarbocyanine dyes I (X = ClO4, Br) with angular situation of the chromophores occurred more readily than that of monocyanine dye analogs. Assocn. of biscarbocyanine dye II with parallel situation of the chromophores was similar to that of a monocyanine analog. Assocn. in such solvents occurred only at high concns. (10-3-10-3M). Similar behavior was obsd. in water, but in more dil. solns. Addn. of Na dodecyl sulfate surfactant to aq. solns. led to deaggregation of the biscyananines. In weakly polar solvents and their binary mixts., the biscyanines assocd. more readily than the monocyanines, regardless of the angle of chromophore situation. Aggregation in such solvents depended on the anion nature, occurred in very dil. solns. (10-5-10-6M), and was the result of both dispersion

L7 ANSWER 10 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

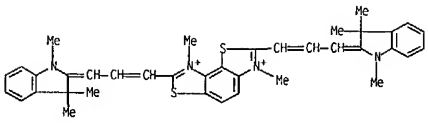
interactions of the .pi.-systems of the cations and electrostatic interaction between charges of the ion pairs. The presence of 2 anions in the biscyanines increased the probability of assocn. of their ion pairs in comparison with that of the monocyanines.

IT **121717-44-0 121717-45-1**
RL: PRP (Properties)
(assocn. of, in solvents, structure and solvent polarity in relation to)

RN 121717-44-0 CAPLUS
CN Benzo[1.2-d:3,4-d']bisthiazolium, 2,7-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,8-dimethyl-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 23792-51-0
CMF C38 H40 N4 S2

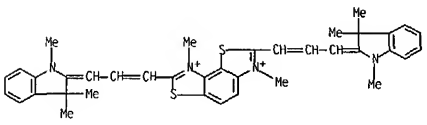


CM 2

CRN 14797-73-0
CMF Cl O4

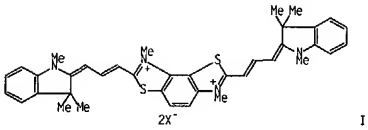
RN 121717-45-1 CAPLUS
CN Benzo[1.2-d:3,4-d']bisthiazolium, 2,7-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,8-dimethyl-, bromide (9CI) (CA INDEX NAME)

L7 ANSWER 10 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

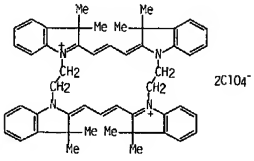


●Br⁻

L7 ANSWER 11 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1989:441346 CAPLUS
DOCUMENT NUMBER: 111:41346
TITLE: Association of biscyanine dyes with rigidly bound chromophores in polar solvents
AUTHOR(S): Ishchenko, A. A.; Mushkalo, I. L.; Derevyanko, N. A.; Zakhidov, U.; Khidirova, T. Sh.; Nizamov, N.
CORPORATE SOURCE: USSR
SOURCE: Zhurnal Prikladnoi Spektroskopii (1989), 50(2), 237-43
CODEN: ZPSBAX; ISSN: 0514-7506
DOCUMENT TYPE: Journal
LANGUAGE: Russian
GRAPHIC IMAGE:



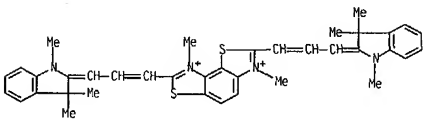
I



II

ABSTRACT:
The biscyanine dyes I (X = Br, ClO4), in which the chromophores had angular orientation, assocd. in a polar solvent more easily than their monochromophoric analogs. The biscyanine dye II, in which the chromophores were situated parallel to each other, was similar to a monocyanine analog in that no aggregation was obsd. for the dyes in polar soln. Aggregation of the bis- and monocyanine dyes was independent of anion nature and was detd. by dispersive interactions of the .pi.-system of their cations.

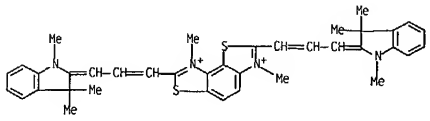
L7 ANSWER 11 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)



L7 ANSWER 11 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)
IT 19695-81-9 120627-17-0
RL: PRP (Properties)
(assocn. of, in polar solvents)
RN 19695-81-9 CAPLUS
CN Benzo[1,2-d:3,4-d']bisthiazolium, 2,7-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,8-dimethyl-, diperchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 23792-51-0
CMF C38 H40 N4 S2

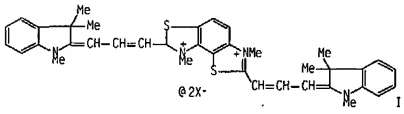


CM 2

CRN 14797-73-0
CMF Cl O4

RN 120627-17-0 CAPLUS
CN Benzo[1,2-d:3,4-d']bisthiazolium, 2,7-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,8-dimethyl-, dibromide (9CI) (CA INDEX NAME)

L7 ANSWER 12 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1989:424946 CAPLUS
DOCUMENT NUMBER: 111:24946
TITLE: Association of biscyanines in low-polarity binary solvents
AUTHOR(S): Nizamov, N.; Khidirova, T. Sh.; Zakhidov, U.; Mushkalo, I. L.; Ishchenko, A. A.
CORPORATE SOURCE: Samark. Gos. Univ., Samarkand, USSR
SOURCE: Doklady Akademii Nauk UzSSR (1988), (9), 49-51
CODEN: DANUAO; ISSN: 0134-4307
DOCUMENT TYPE: Journal
LANGUAGE: Russian
GRAPHIC IMAGE:



I

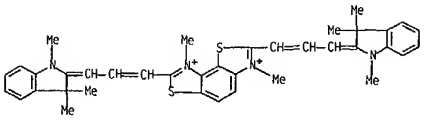
ABSTRACT:
Absorption spectra for the biscyanines I (X = Br, ClO4) in dichloroethane-hexane solvent changed with increasing content of nonpolar solvent in the solvent mixt. due to assocn. of I mols. Significant changes were obsd. at 60 and 70% hexane. The dependence of the spectra on the anion nature indicated that both anions participated in assocn. of the ion pairs. This behavior was related to the greater tendency of cyanine dyes with 2 chromophores toward aggregation in weakly polar media, compared with analogous dyes with 1 chromophore.

IT 19695-81-9 120627-17-0
RL: PRP (Properties)
(assocn. of, in dichlorethane-hexane solvent, solvent compn. effect on)
RN 19695-81-9 CAPLUS
CN Benzo[1,2-d:3,4-d']bisthiazolium, 2,7-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,8-dimethyl-, diperchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 23792-51-0
CMF C38 H40 N4 S2

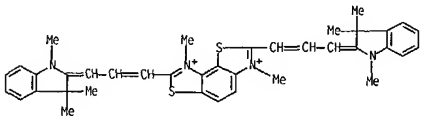
L7 ANSWER 12 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)



CM 2

CRN 14797-73-0
CMF Cl O4

RN 120627-17-0 CAPLUS
CN Benzo[1.2-d:3.4-d']bisthiazolium, 2,7-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,8-dimethyl-, dibromide (9CI) (CA INDEX NAME)



●2 Br⁻

L7 ANSWER 13 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1987:408896 CAPLUS
DOCUMENT NUMBER: 107:8896
TITLE: Calculation of the conformational equilibrium of biscarbocyanines from their absorption spectra
AUTHOR(S): Dyadyusha, G. G.; Kachkovskii, A. D.; Kolesnikov, A. M.; Kucherov, A. P.
CORPORATE SOURCE: Inst. Org. Khim., Kiev, USSR
SOURCE: Teoreticheskaya i Eksperimental'naya Khimiya (1986), 22(4), 426-35
CODEN: TEKHA4; ISSN: 0497-2627
DOCUMENT TYPE: Journal
LANGUAGE: Russian
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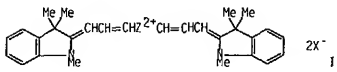


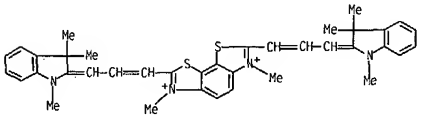
I

ABSTRACT:
A method based on the general regularities of interaction of 2 chromophores in a single mol. is presented for calcg. the ratio of conformers of biscarbocyanine dyes (I; Z = diylium heterocyclic nucleus; X- = anion) from their absorption spectra. The probability of a polymethine chain being in 1 or another conformation can be detd. from the absorption spectra of the biscarbocyanine and its analog with fixed structure and from construction of graphic models of the proposed conformers. Factors detg. the conformational equil. are the apparent vols. of atoms or atom groups in positions 1 and 3 of the terminal heterocyclic ring.

IT 21834-79-7 21839-56-5 23104-60-1
23792-51-0 37005-92-8 41075-55-2
47853-12-3 79701-62-5 108527-67-9
108527-68-0 108527-69-1 108527-70-4
108527-71-5 108527-72-6 108527-73-7
108527-74-8 108527-75-9 108527-76-0
108527-77-1 108527-78-2 108527-79-3
108544-29-2
RL: PRP (Properties)
(conformer probability and conformational equil. of, calcn. of, from absorption spectra)

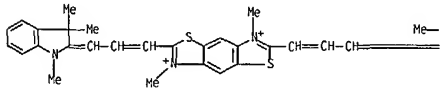
RN 21834-79-7 CAPLUS
CN Benzo[1,2-d:4,3-d']bisthiazolium, 2,7-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,6-dimethyl- (9CI) (CA INDEX NAME)

L7 ANSWER 13 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)



RN 21839-56-5 CAPLUS
CN Benzo[1,2-d:4,5-d']bisthiazolium, 2,6-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,7-dimethyl- (9CI) (CA INDEX NAME)

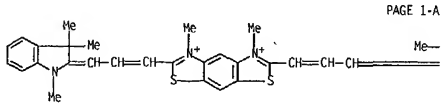
PAGE 1-A



PAGE 1-B

RN 23104-60-1 CAPLUS
CN Benzo[1,2-d:5,4-d']bisthiazolium, 2,6-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,5-dimethyl- (9CI) (CA INDEX NAME)

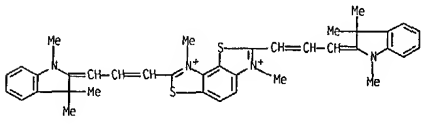
PAGE 1-A



L7 ANSWER 13 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

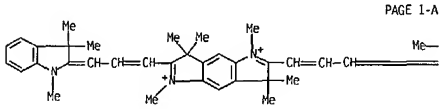
PAGE 1-B

RN 23792-51-0 CAPLUS
CN Benzo[1,2-d:3,4-d']bisthiazolium, 2,7-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,8-dimethyl- (9CI) (CA INDEX NAME)



RN 37005-92-8 CAPLUS
CN Benzo[1,2-b:4,5-b']dipyrrolium, 2,6-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,7-dihydro-1,3,3,5,7,7-hexamethyl- (9CI) (CA INDEX NAME)

PAGE 1-A

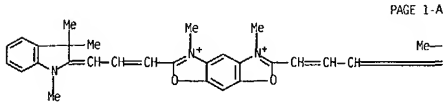


PAGE 1-B

RN 41075-55-2 CAPLUS
CN Benzo[1.2-d:5.4-d']bisoxazolium, 2,6-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-

L7 ANSWER 13 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)
indol-2-ylidene)-1-propenyl]-3,5-dimethyl- (9CI) (CA INDEX NAME)

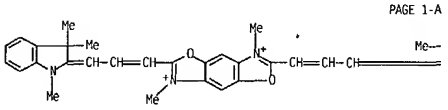
PAGE 1-A



PAGE 1-B

RN 47853-12-3 CAPLUS
CN Benzo[1.2-d:4.5-d']bisoxazolium, 2,6-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,7-dimethyl- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

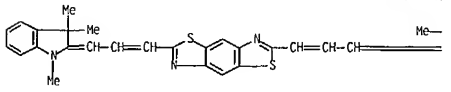
RN 79701-62-5 CAPLUS

L7 ANSWER 13 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

PAGE 1-B

RN 108527-69-1 CAPLUS
CN Benzo[1.2-d:4.5-d']bisthiazole, 2,6-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-, conjugate diacid (9CI) (CA INDEX NAME)

PAGE 1-A

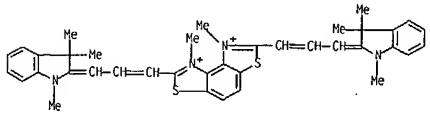


●2 H+

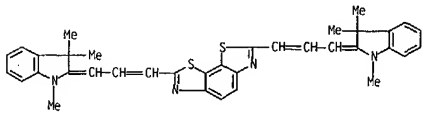
PAGE 1-B

RN 108527-70-4 CAPLUS
CN Benzo[1,2-d:4,5-d']bisoxazolium, 2,6-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3-methyl-, conjugate monoacid (9CI) (CA INDEX NAME)

L7 ANSWER 13 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)
CN Benzo[2,1-d:3,4-d']bisthiazolium, 2,7-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-1,8-dimethyl- (9CI) (CA INDEX NAME)



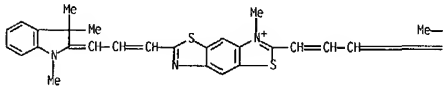
RN 108527-67-9 CAPLUS
CN Benzo[1.2-d:4,3-d']bisthiazole, 2,7-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-, conjugate diacid (9CI) (CA INDEX NAME)



●2 H+

RN 108527-68-0 CAPLUS
CN Benzo[1.2-d:4.5-d']bisthiazolium, 2,6-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3-methyl-, conjugate monoacid (9CI) (CA INDEX NAME)

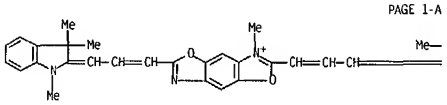
PAGE 1-A



●H+

L7 ANSWER 13 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

PAGE 1-A

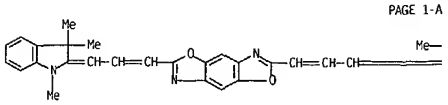


●H+

PAGE 1-B

RN 108527-71-5 CAPLUS
CN Benzo[1.2-d:4.5-d']bisoxazole, 2,6-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-, conjugate diacid (9CI) (CA INDEX NAME)

PAGE 1-A



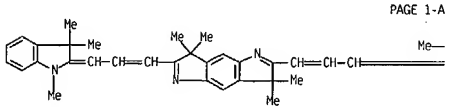
●2 H+

PAGE 1-B

RN 108527-72-6 CAPLUS

L7 ANSWER 13 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)
CN Benzo[1,2-b:4,5-b']dipyrrole, 2,6-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,7-dihydro-3,3,7,7-tetramethyl-, conjugate diacid (9CI) (CA INDEX NAME)

PAGE 1-A

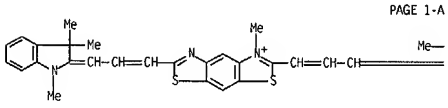


●2 H+

PAGE 1-B

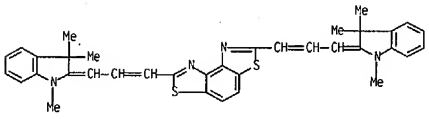
RN 108527-73-7 CAPLUS
CN Benzo[1,2-d:5,4-d']bisthiazolium, 2,6-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3-methyl-, conjugate monoacid (9CI) (CA INDEX NAME)

PAGE 1-A



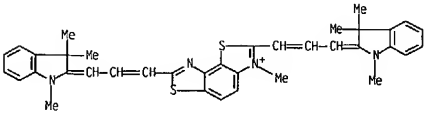
●H+

L7 ANSWER 13 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)



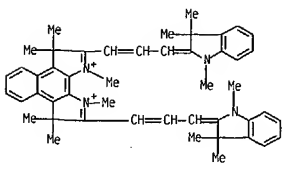
●2 H+

RN 108527-76-0 CAPLUS
CN Benzo[1,2-d:3,4-d']bisthiazolium, 2,7-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3-methyl-, conjugate monoacid (9CI) (CA INDEX NAME)



●H+

RN 108527-77-1 CAPLUS
CN Benzo[e]pyrrolo[3,2-g]indolium, 2,9-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,8-dihydro-1,3,3,8,8,10-hexamethyl- (9CI) (CA INDEX NAME)



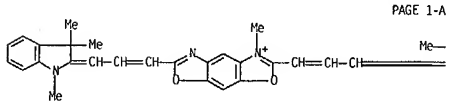
RN 108527-78-2 CAPLUS
CN Benzo[e]pyrrolo[3,2-g]indolium, 2,9-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-

L7 ANSWER 13 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

PAGE 1-B

RN 108527-74-8 CAPLUS
CN Benzo[1,2-d:5,4-d']bisoxazole, 2,6-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3-methyl-, conjugate monoacid (9CI) (CA INDEX NAME)

PAGE 1-A

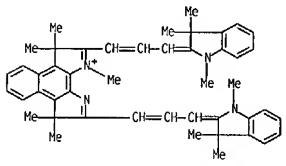


●H+

PAGE 1-B

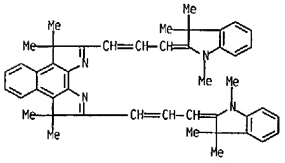
RN 108527-75-9 CAPLUS
CN Benzo[2,1-d:3,4-d']bisthiazole, 2,7-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-, conjugate diacid (9CI) (CA INDEX NAME)

L7 ANSWER 13 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)
indol-2-ylidene)-1-propenyl]-3,8-dihydro-1,3,3,8,8-pentamethyl-, conjugate monoacid (9CI) (CA INDEX NAME)



●H+

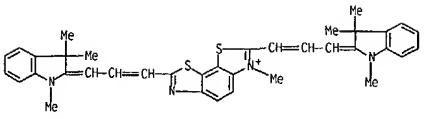
RN 108527-79-3 CAPLUS
CN Benzo[e]pyrrolo[3,2-g]indole, 2,9-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,8-dihydro-3,3,8,8-tetramethyl-, conjugate diacid (9CI) (CA INDEX NAME)



●2 H+

RN 108544-29-2 CAPLUS
CN Benzo[1,2-d:4,3-d']bisthiazolium, 2,7-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3-methyl-, conjugate monoacid (9CI) (CA INDEX NAME)

L7 ANSWER 13 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)



●H+

L7 ANSWER 14 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN

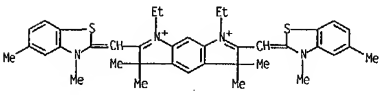
ACCESSION NUMBER: 1986:234393 CAPLUS
DOCUMENT NUMBER: 104:234393
TITLE: Optical information recording material
INVENTOR(S): Sato, Tsutomu; Abe, Michiharu; Oba, Hideaki; Ueda, Yutaka; Umehara, Masaaki
PATENT ASSIGNEE(S): Ricoh Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 60252345	A2	19851213	JP 1984-108440	19840530

PRIORITY APPLN. INFO.: JP 1984-108440 19840530
GRAPHIC IMAGE: For diagram(s), see printed CA Issue.
ABSTRACT:
The recording layer of the title material contains I (R = H, unsubstituted alkyl; R1, R2 = alkyl, aryl, aralkyl, alkenyl; A, A1 = heterocyclic ring; X = anion, k, m = 0, 1, 2). Writing and reading may be carried out by using a semiconductor laser light. Informations recorded have high d., and are durable. Thus, a 1,2-dichloroethane soln. of II was spin-coated on a PMMA disk to form a 650 .ANG. layer. The recording was carried out by using a 790 nm laser light. The signal-to-noise ratio before and after irradn. of the recorded disk with 54,000 lx W light for 50 h were 55 and 53 dB, resp.

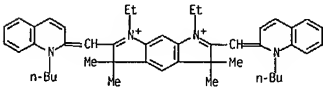
IT **102509-14-8 102509-15-9 102509-17-1**
102509-18-2 102522-10-1 102522-12-3
RL: USES (Uses)
(optical recording material with photosensitive layer contg.)
RN 102509-14-8 CAPLUS
CN Benzo[1,2-b:5,4-b']dipyrrolium, 2,6-bis[(3,5-dimethyl-2(3H)-benzothiazolylidene)methyl]-1,7-diethyl-3,5-dihydro-3,3,5,5-tetramethyl-, diiodide (9CI) (CA INDEX NAME)

L7 ANSWER 14 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)



●2 I-

RN 102509-15-9 CAPLUS
CN Benzo[1,2-b:5,4-b']dipyrrolium, 2,6-bis[(1-butyl-2(1H)-quinolinylidene)methyl]-1,7-diethyl-3,5-dihydro-3,3,5,5-tetramethyl-, dichloride (9CI) (CA INDEX NAME)

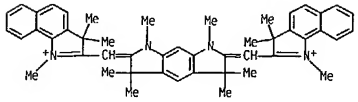


●2 Cl-

RN 102509-17-1 CAPLUS
CN 3H-Benz[g]indolium, 2,2'-[(5,7-dihydro-1,3,3,5,5,7-hexamethylbenzo[1,2-b:5,4-b']dipyrrole-2,6(1H,3H)-diylidene)dimethylidyne]bis[1,3,3-trimethyl-, salt with 4-methylbenzenesulfonic acid (1:2) (9CI) (CA INDEX NAME)

CM 1

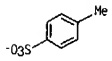
CRN 102509-16-0
CMF C48 H52 N4



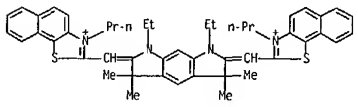
CM 2

L7 ANSWER 14 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

CRN 16722-51-3
CMF C7 H7 O3 S



RN 102509-18-2 CAPLUS
CN Naphtho[2,1-d]thiazolium, 2,2'-[(1,7-diethyl-5,7-dihydro-3,3,5,5-tetramethylbenzo[1,2-b:5,4-b']dipyrrole-2,6(1H,3H)-diylidene)dimethylidyne]bis[3-propyl-, dibromide (9CI) (CA INDEX NAME)

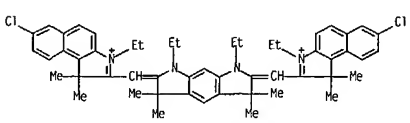


●2 Br-

RN 102522-10-1 CAPLUS
CN 1H-Benz[e]indolium, 2,2'-[(1,7-diethyl-5,7-dihydro-3,3,5,5-tetramethylbenzo[1,2-b:5,4-b']dipyrrole-2,6(1H,3H)-diylidene)dimethylidyne]bis[7-chloro-3-ethyl-1,1-dimethyl-, diperchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 102522-09-8
CMF C52 H58 Cl2 N4



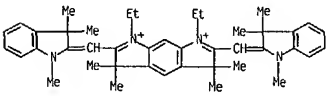
L7 ANSWER 14 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)
CM 2

CRN 14797-73-0
CMF Cl O4

RN 102522-12-3 CAPLUS
CN Benzo[1,2-b:5,4-b']dipyrrolium, 2,6-bis[(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)methyl]-1,7-diethyl-3,5-dihydro-3,3,5,5-tetramethyl-, diperchlorate (9Cl) (CA INDEX NAME)

CM 1

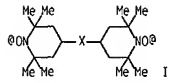
CRN 102522-11-2
CMF C42 H52 N4



CM 2

CRN 14797-73-0
CMF Cl O4

L7 ANSWER 15 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1982:405674 CAPLUS
DOCUMENT NUMBER: 97:5674
TITLE: Quenching of triplet states of organic molecules by nitroxyl biradicals
AUTHOR(S): Shvedova, L. A.; Tatikolov, A. S.; Borisevich, Yu. E.; Kokorin, A. I.; Kuz'min, V. A.
CORPORATE SOURCE: Inst. Khim. Fiz., Moscow, USSR
SOURCE: Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya (1982), (3), 531-5
CODEN: IASKA6; ISSN: 0002-3353
DOCUMENT TYPE: Journal
LANGUAGE: Russian
GRAPHIC IMAGE:



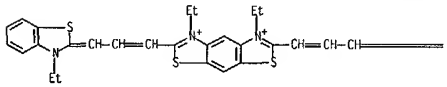
I

ABSTRACT:
In the quenching of triplet states of arenes, retinal, and a biscyanine dye by I [X = C.tplbond.C, C.tplbond.CHgC.tplbond.C, 4,5-(C.tplbond.C)2C6H4, 4-(4-C.tplbond.CC6H4C.tplbond.CC.tplbond.C)C6H4C.tplbond.C] the contribution of triplet interactions is insignificant. Triplet quenching by radicals contg. a benzene ring is generally faster than that by other radicals because of .pi. complexation.

IT 59970-99-9
RL: PROC (Process)
(triplet quenching of, by nitroxyl biradicals)
RN 59970-99-9 CAPLUS
CN Benzo[1,2-d:5,4-d']bisthiazolium, 3,5-diethyl-2,6-bis[3-(3-ethyl-2(3H)-benzothiazolylidene)-1-propenyl]- (9CI) (CA INDEX NAME)

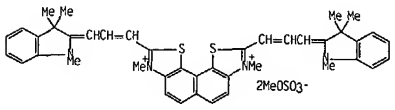
L7 ANSWER 15 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

PAGE 1-A



PAGE 1-B

L7 ANSWER 16 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1982:219255 CAPLUS
DOCUMENT NUMBER: 96:219255
TITLE: Interaction of chromophores of bis(carbocyanine) dyes - derivatives of isomeric naphthobis(thiazoles) and naphthodipyrrolenines
AUTHOR(S): Kolesnikov, A. M.; Mikhailenko, F. A.
CORPORATE SOURCE: Inst. Org. Khim., Kiev, USSR
SOURCE: Zhurnal Organicheskoi Khimii (1982), 18(2), 441-50
CODEN: ZORKAE; ISSN: 0514-7492
DOCUMENT TYPE: Journal
LANGUAGE: Russian
GRAPHIC IMAGE:



I

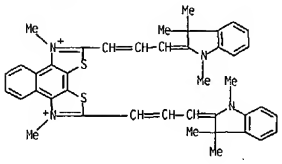
ABSTRACT:
Interactions between the chromophores in biscyanines were studied from the electronic absorption spectra of I [81955-56-8] and 3 isomers and of 3 isomeric naphthodipyrrole (indoloindole) derivs. I showed an abnormally high absorption, with .lambda. max 519 (.epsilon. 30.2 .times. 104) and 625 nm (.epsilon. 6.2 .times. 104), corresponding to an angle between chromophores of 52.degree.. The heterocyclic bases necessary for the synthesis of the biscyanines were prepd. by cyclization of the resp. bis(thioacetamido)naphthalenes or by condensation of the resp. naphthalenedihydrazines with Me iso-Pr ketone, followed by cyclocondensation. Some other isomeric heterocyclic bases with greater steric hindrance could not be quaternized and thus no biscyanines were prepd. from them.

IT 81955-44-4P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and visible absorption of)
RN 81955-44-4 CAPLUS
CN Naphtho[1,2-d:4,3-d']bisthiazolium, 2,5-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-1,6-dimethyl-, diperchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 81955-43-3
CMF C42 H42 N4 S2

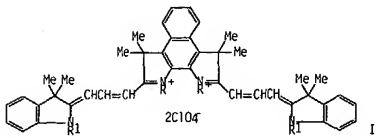
L7 ANSWER 16 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)



CM 2

CRN 14797-73-0
CMF Cl O4

L7 ANSWER 17 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1982:219254 CAPLUS
DOCUMENT NUMBER: 96:219254
TITLE: Conformation of polymethine dyes. II. NH-bis(cyanines)
AUTHOR(S): Dyadyusha, G. G.; Kolesnikov, A. M.; Mikhailenko, F. A.
CORPORATE SOURCE: Inst. Org. Khim., Kiev, USSR
SOURCE: Zhurnal Organicheskoi Khimii (1982), 18(1), 206-13
CODEN: ZORKAE; ISSN: 0514-7492
DOCUMENT TYPE: Journal
LANGUAGE: Russian
GRAPHIC IMAGE:

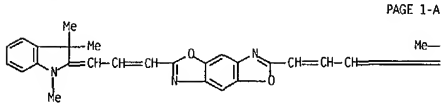


ABSTRACT:
As shown by the angle between chromophores, detd. from the relative peak heights in the electronic absorption spectra, the polymethine chains in I (RR = CH2CH2, R1 = Me) [81903-15-3] and I [RR = (CH2)3, R1 = Me] [***81903-17-5***] exist in the pseudo-trans conformation, whereas those in I (R = H, R1 = Me) [81903-19-7] show a cis conformation of the bond from the first methine group to the central nucleus and those in I (R = R1 = H) [81903-21-1] have the cis conformation at both ends of the trimethine chain. These effects are attributed to steric hindrance, which is greater than in benzobisoxazole and benzobisthiazole analogs.

IT 81903-22-2P 81903-24-4P 81903-26-6P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 81903-22-2 CAPLUS
CN Benzo[1,2-d:4,5-d']bisoxazole, 2,6-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]- (9CI) (CA INDEX NAME)

L7 ANSWER 17 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

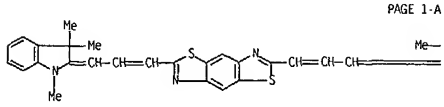
PAGE 1-A



PAGE 1-B

RN 81903-24-4 CAPLUS
CN Benzo[1,2-d:4,5-d']bisthiazole, 2,6-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]- (9CI) (CA INDEX NAME)

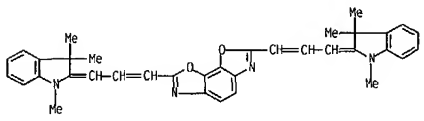
PAGE 1-A



PAGE 1-B

RN 81903-26-6 CAPLUS
CN Benzo[1,2-d:4,3-d']bisoxazole, 2,7-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]- (9CI) (CA INDEX NAME)

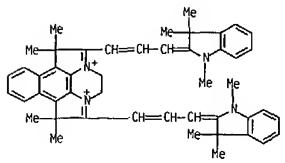
L7 ANSWER 17 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)



IT 81903-15-3 81903-17-5 81903-19-7
81903-21-1 81903-23-3 81903-25-5
81903-27-7 81903-29-9 81903-30-2
RL: PRP (Properties)
(visible spectrum of, conformation in relation to)
RN 81903-15-3 CAPLUS
CN Benzo[g]dipyrrolo[1,2,3-de:3',2',1'-ij]quinoxalinediium, 2,7-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-1,4,5,8-tetrahydro-1,1,8,8-tetramethyl-, diperchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 81903-14-2
CMF C48 H52 N4



CM 2

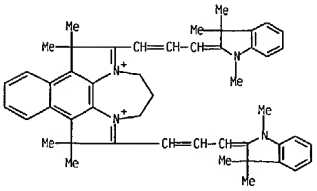
CRN 14797-73-0
CMF Cl O4

L7 ANSWER 17 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

RN 81903-17-5 CAPLUS
CN 1H-Benzo[h]dipyrrolo[1.2.3-ef:3',2',1'-jk][1.5]benzodiazepinediium, 2,8-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-4,5,6,9-tetrahydro-1,1,9,9-tetramethyl-, diperchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 81903-16-4
CMF C49 H54 N4



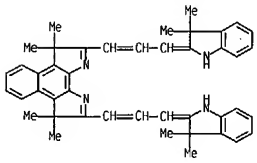
CM 2

CRN 14797-73-0
CMF Cl O4

RN 81903-19-7 CAPLUS
CN Benzo[e]pyrrolo[3,2-g]indole, 2,9-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,8-dihydro-3,3,8,8-tetramethyl-, diperchlorate (9CI) (CA INDEX NAME)

CM 1

L7 ANSWER 17 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)



CM 2

CRN 7601-90-3
CMF Cl H O4

RN 81903-23-3 CAPLUS
CN Benzo[1,2-d:4,5-d']bisoxazole, 2,6-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-, bis(trifluoroacetate) (9CI) (CA INDEX NAME)

CM 1

CRN 81903-22-2
CMF C36 H34 N4 O2

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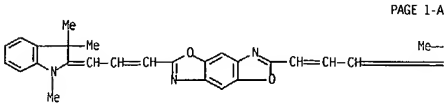
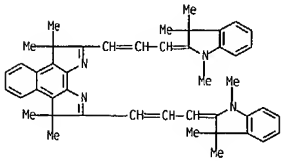


L7 ANSWER 17 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)
CRN 81903-18-6
CMF C46 H48 N4



CM 2

CRN 7601-90-3
CMF Cl H O4

RN 81903-21-1 CAPLUS
CN Benzo[e]pyrrolo[3,2-g]indole, 2,9-bis[3-(1,3-dihydro-3,3-dimethyl-2H-indol-2-ylidene)-1-propenyl]-3,8-dihydro-3,3,8,8-tetramethyl-, diperchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 81903-20-0
CMF C44 H44 N4

L7 ANSWER 17 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

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CM 2

CRN 76-05-1
CMF C2 H F3 O2

RN 81903-25-5 CAPLUS
CN Benzo[1,2-d:4,5-d']bisthiazole, 2,6-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-, bis(trifluoroacetate) (9CI) (CA INDEX NAME)

CM 1

CRN 81903-24-4
CMF C36 H34 N4 S2

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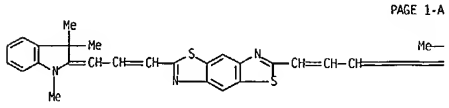


L7 ANSWER 17 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

PAGE 1-B

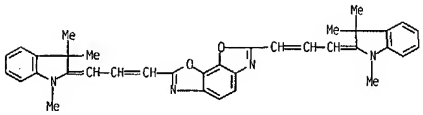
CM 2

CRN 76-05-1
CMF C2 H F3 O2

RN 81903-27-7 CAPLUS
CN Benzo[1,2-d:4,3-d']bisoxazole, 2,7-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-, bis(trifluoroacetate) (9CI) (CA INDEX NAME)

CM 1

CRN 81903-26-6
CMF C36 H34 N4 O2



CM 2

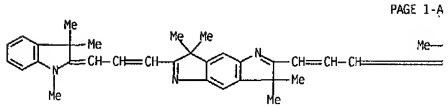
CRN 76-05-1

L7 ANSWER 17 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

CM 1

CRN 61109-41-9
CMF C42 H46 N4

PAGE 1-A



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CM 2

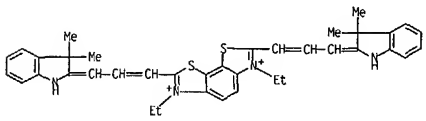
CRN 7601-90-3
CMF C1 H O4

L7 ANSWER 17 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)
CMF C2 H F3 O2

RN 81903-29-9 CAPLUS
CN Benzo[1,2-d:4,3-d']bisthiazolium, 2,7-bis[3-(1,3-dihydro-3,3-dimethyl-2H-indol-2-ylidene)-1-propenyl]-3,6-diethyl-, diperchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 81903-28-8
CMF C38 H40 N4 S2



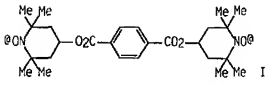
CM 2

CRN 14797-73-0
CMF C1 O4

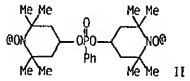
RN 81903-30-2 CAPLUS
CN Benzo[1,2-b:4,5-b']dipyrrole, 2,6-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,3,7,7-tetramethyl-, diperchlorate (9CI) (CA INDEX NAME)

L7 ANSWER 18 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER:	1982:21272 CAPLUS
DOCUMENT NUMBER:	96:21272
TITLE:	Effect of electron spin exchange on the interaction of stable nitroxyl radicals with triplet states of cyanine dyes
AUTHOR(S):	Borisevich, Yu. E.; Kuz'min, V. A.; Kokorin, A. I.; Sennikov, G. P.; Novozhilova, G. A.; Shapiro, A. B.
CORPORATE SOURCE:	Inst. Khim. Fiz., Moscow, USSR
SOURCE:	Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya (1981), (9), 2019-23 CODEN: IASKA6; ISSN: 0002-3353
DOCUMENT TYPE:	Journal
LANGUAGE:	Russian
GRAPHIC IMAGE:	



I



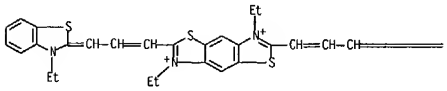
II

ABSTRACT:
The efficiency of quenching of the triplet state of a cyanine dye by stable nitroxyl biradicals, as studied by flash photolysis in EtOH at 20.degree., increased with increasing spin exchange between the paramagnetic centers of the biradical, accompanied by a change in the quenching mechanism (formation of a charge-transfer complex). The quenching rate const. increased from .apprx.1.3 .times. 10⁷ to .apprx.3.0 .times. 10⁷ L/mol-s as the abs. values of the spin-exchange integral measured in hyperfine interaction const. units increased from 0.2 to 6.4 for I [2516-91-8] and II [42585-21-7], resp., because of the increasing contribution of a triplet to the biradical state (triplet-triplet annihilation is negligible).

IT 54998-67-3
RL: PRP (Properties)
(triplet state of, quenching of, with nitroxyl biradicals, mechanism of)
RN 54998-67-3 CAPLUS
CN Benzo[1,2-d:4,5-d']bisthiazolium, 3,7-diethyl-2,6-bis[3-(3-ethyl-2(3H)-benzothiazolylidene)-1-propenyl]- (9CI) (CA INDEX NAME)

L7 ANSWER 18 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

PAGE 1-A



PAGE 1-B

L7 ANSWER 19 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1981:621289 CAPLUS
DOCUMENT NUMBER: 95:221289
TITLE: Effect of the .pi.-electron conjugation of chromophores on the reactivity of triplet states of dyes with two chromophores in electron transfer reactions
AUTHOR(S): Borisevich, Yu. E.; Kuz'min, V. A.; Renge, I.
CORPORATE SOURCE: Inst. Khim. Fiz., Moscow, USSR
SOURCE: Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya (1981), (8), 1796-801
CODEN: IASKA6; ISSN: 0002-3353
DOCUMENT TYPE: Journal
LANGUAGE: Russian
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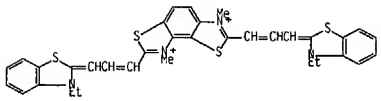


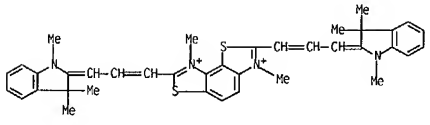
I

ABSTRACT:
The rate consts. of quenching of triplet states of biscyanine dyes (e.g., I [***79701-64-7***]) by electron acceptors (e.g., p-nitrophenol [100-02-7]) and donors (p-toluidine [106-49-0]) increased and decreased, resp., with increasing degree of .pi.-electron conjugation of chromophores of the dyes. Such changes in reactivity of triplet states were ascribed to decreased ionization potentials and increased electron affinity of the dyes with increased .pi.-electron conjugation of the chromophores.

IT **23792-51-0 37005-92-8 47862-94-2**
47869-38-5 47870-37-1 52029-69-3
52029-76-2 54998-67-3 59970-97-7
59970-99-9 79701-62-5 79701-64-7
RL: USES (Uses)
(triplet state quenching of, by electron donors and acceptors, chromophore conjugation effect on)

RN 23792-51-0 CAPLUS
CN Benzo[1,2-d:3,4-d']bisthiazolium, 2,7-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,8-dimethyl- (9CI) (CA INDEX NAME)

L7 ANSWER 19 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)



RN 37005-92-8 CAPLUS
CN Benzo[1,2-b:4,5-b']dipyrrolium, 2,6-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,7-dihydro-1,3,3,5,7,7-hexamethyl- (9CI) (CA INDEX NAME)

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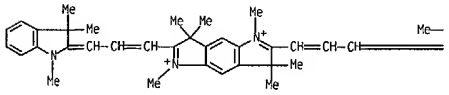
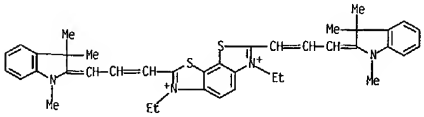


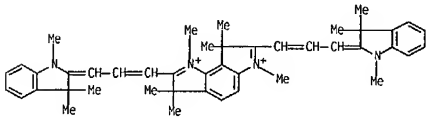
PAGE 1-B

RN 47862-94-2 CAPLUS
CN Benzo[1,2-d:4,3-d']bisthiazolium, 2,7-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,6-diethyl- (9CI) (CA INDEX NAME)



RN 47869-38-5 CAPLUS
CN Benzo[1,2-b:3,4-b']dipyrrolium, 2,7-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-

L7 ANSWER 19 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)
indol-2-ylidene)-1-propenyl]-3,8-dihydro-1,3,3,6,8,8-hexamethyl- (9CI) (CA INDEX NAME)



RN 47870-37-1 CAPLUS
CN Benzo[1,2-b:5,4-b']dipyrrolium, 2,6-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,5-dihydro-1,3,3,5,5,7-hexamethyl- (9CI) (CA INDEX NAME)

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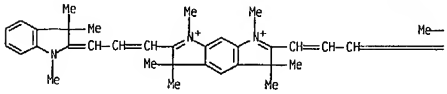

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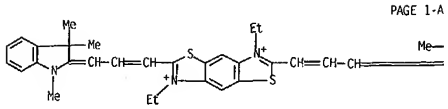
RN 52029-69-3 CAPLUS
CN Benzo[1,2-d:4,5-d']bisthiazolium, 2,6-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,7-diethyl- (9CI) (CA INDEX NAME)

L7 ANSWER 19 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

PAGE 1-A



PAGE 1-B

RN 52029-76-2 CAPLUS
CN Benzo[1.2-d:5.4-d']bisthiazolium, 2.6-bis[3-(1.3-dihydro-1.3.3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3.5-diethyl- (9CI) (CA INDEX NAME)

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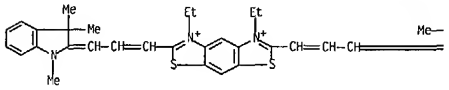


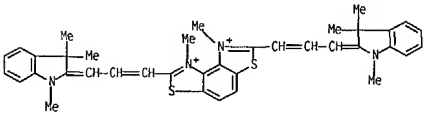
PAGE 1-B

RN 54998-67-3 CAPLUS
CN Benzo[1.2-d:4.5-d']bisthiazolium, 3.7-diethyl-2.6-bis[3-(3-ethyl-2(3H)-benzothiazolylidene)-1-propenyl]- (9CI) (CA INDEX NAME)

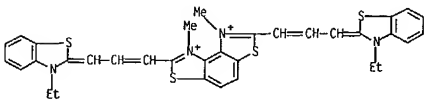
L7 ANSWER 19 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

PAGE 1-B

RN 79701-62-5 CAPLUS
CN Benzo[2.1-d:3.4-d']bisthiazolium, 2.7-bis[3-(1.3-dihydro-1.3.3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-1.8-dimethyl- (9CI) (CA INDEX NAME)

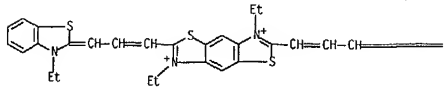


RN 79701-64-7 CAPLUS
CN Benzo[2.1-d:3.4-d']bisthiazolium, 2.7-bis[3-(3-ethyl-2(3H)-benzothiazolylidene)-1-propenyl]-1.8-dimethyl- (9CI) (CA INDEX NAME)



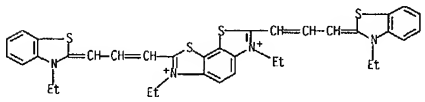
L7 ANSWER 19 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

PAGE 1-A



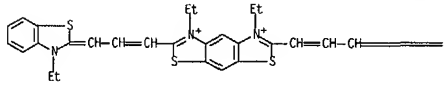
PAGE 1-B

RN 59970-97-7 CAPLUS
CN Benzo[1.2-d:4.3-d']bisthiazolium, 3.6-diethyl-2.7-bis[3-(3-ethyl-2(3H)-benzothiazolylidene)-1-propenyl]- (9CI) (CA INDEX NAME)



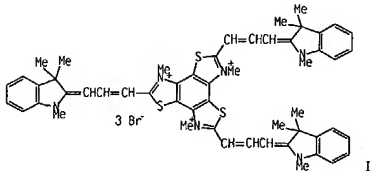
RN 59970-99-9 CAPLUS
CN Benzo[1.2-d:5.4-d']bisthiazolium, 3.5-diethyl-2.6-bis[3-(3-ethyl-2(3H)-benzothiazolylidene)-1-propenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A



L7 ANSWER 20 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1981:193685 CAPLUS
DOCUMENT NUMBER: 94:193685
TITLE: Dye with three radially bound chromophores
AUTHOR(S): Mikhailenko, F. A.; Dyadyusha, G. G.; Moreiko, O. V.
CORPORATE SOURCE: Inst. Org. Khim., Kiev, USSR
SOURCE: Ukrainskii Khimicheskii Zhurnal (Russian Edition) (1980), 46(12), 1304-6
CODEN: UKZHAU; ISSN: 0041-6045
DOCUMENT TYPE: Journal
LANGUAGE: Russian
GRAPHIC IMAGE:



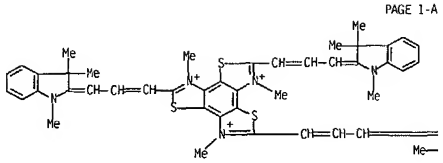
I

ABSTRACT:
The title dye (I) [77269-78-4] was prepd. by quaternization of 2.5.8-trimethylbenzo[1.2-d:3.4-d':5.6-d'']tristhiazole [77269-77-3] with Me2SO4, followed by condensation with 2-(formylmethylene)-1.3.3-trimethylindoline [84-83-3]. The absorption spectrum of I in HOAc agreed with that predicted by a theor. model proposed. The chromophore interaction was shown by the redn. in absorbance upon addn. of H2SO4, protonating one of the chromophores.

IT 77269-78-4P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and spectra of)
RN 77269-78-4 CAPLUS
CN Benzo[1.2-d:3.4-d':5.6-d'']tristhiazolium, 2.5.8-tris[3-(1.3-dihydro-1.3.3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3.6.9-trimethyl-, tribromide (9CI) (CA INDEX NAME)

L7 ANSWER 20 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

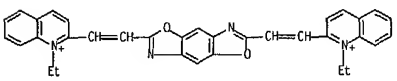
PAGE 1-A



●3 Br⁻

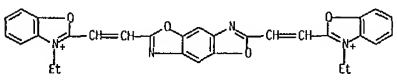
PAGE 1-B

L7 ANSWER 21 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)
(prepn. of)
RN 69709-99-5 CAPLUS
CN Quinolinium, 2,2'-(benzo[1,2-d:4,5-d']bisoxazole-2,6-diyldi-2,1-ethenediyl)bis[1-ethyl-, diiodide (9CI) (CA INDEX NAME)



●2 I⁻

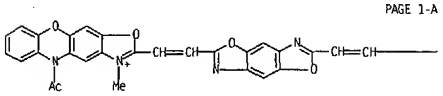
RN 69710-01-6 CAPLUS
CN Benzoxazolium, 2,2'-(benzo[1,2-d:4,5-d']bisoxazole-2,6-diyldi-2,1-ethenediyl)bis[3-ethyl-, diiodide (9CI) (CA INDEX NAME)



●2 I⁻

RN 69710-02-7 CAPLUS
CN 5H-Oxazolo[4,5-b]phenoxazinium, 2,2'-(benzo[1,2-d:4,5-d']bisoxazole-2,6-diyldi-2,1-ethenediyl)bis[5-acetyl-3-methyl-, diiodide (9CI) (CA INDEX NAME)

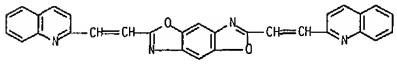
PAGE 1-A



●2 I⁻

L7 ANSWER 21 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1979:153483 CAPLUS
DOCUMENT NUMBER: 90:153483
TITLE: Synthesis of new bis(oxastyryl)cyanine dyes
AUTHOR(S): Osman, Abdel Megied; Khalil, Zarif H.; Youssef, Mohamed Salah K.
CORPORATE SOURCE: Fac. Sci., Assiut Univ., Assiut, Egypt
SOURCE: Indian Journal of Chemistry, Section B: Organic Chemistry Including Medicinal Chemistry (1978), 16B(10), 865-8
CODEN: IJSBDB; ISSN: 0376-4699
DOCUMENT TYPE: Journal
LANGUAGE: English
GRAPHIC IMAGE: For diagram(s), see printed CA Issue.
ABSTRACT:
A series of new styryl cyanine dyes was prepd. from benzo[4,5-b;4',5'-b']bisoxazole-2,6-dicarboxaldehyde (I) [51074-05-6]. I and an equimolar amt. of quinaldine ethiodide [606-55-3] in the presence of a strong basic catalyst gave quin-oxa dimethine styryl cyanine dye II (R = CHO) [69710-12-9], which was treated with 5-acetyl-2-methyloxazolo[4.5-b]phenoxazine methiodide [606-55-3] to form II (R = R1) [69710-13-0]. I also reacted with bimol. amts. of heterocyclic onium compds. contg. an active Me group to give cyanines III (R2 = Et, Me; A = pyridine, quinoline, benzoxazole, 5-acetyloxazolo[4,5-b]phenoxazine residue) or with corresponding heterocyclic bases to give IV (A = pyridine, quinoline, benzoxazole); similar cyanine dyes were prepd. from the 3,7-bis(ethiodide) [69710-14-1] of I. The visible absorption spectra of the dyes are discussed.

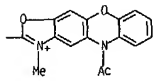
IT 69710-04-9P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and quaternization of)
RN 69710-04-9 CAPLUS
CN Benzo[1,2-d:4,5-d']bisoxazole, 2,6-bis[2-(2-quinolinyl)ethenyl]- (9CI) (CA INDEX NAME)



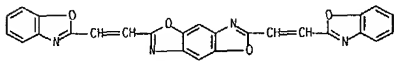
IT 69709-99-5P 69710-01-6P 69710-02-7P
69710-05-0P 69710-07-2P 69710-08-3P
69710-09-4P 69710-10-7P 69710-11-8P
69710-13-0P
RL: SPN (Synthetic preparation); PREP (Preparation)

L7 ANSWER 21 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

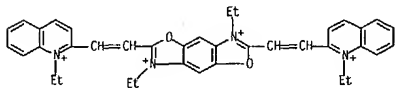
PAGE 1-B



RN 69710-05-0 CAPLUS
CN Benzo[1,2-d:4,5-d']bisoxazole, 2,6-bis[2-(2-benzoxazolyl)ethenyl]- (9CI) (CA INDEX NAME)

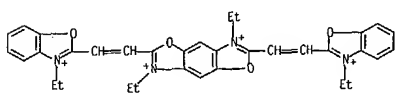


RN 69710-07-2 CAPLUS
CN Benzo[1,2-d:4,5-d']bisoxazolium, 3,7-diethyl-2,6-bis[2-(1-ethylquinolinium-2-yl)ethenyl]-, tetraiodide (9CI) (CA INDEX NAME)



●4 I⁻

RN 69710-08-3 CAPLUS
CN Benzo[1,2-d:4,5-d']bisoxazolium, 3,7-diethyl-2,6-bis[2-(3-ethylbenzoxazolium-2-yl)ethenyl]-, tetraiodide (9CI) (CA INDEX NAME)



●4 I⁻

L7 ANSWER 21 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

RN 69710-09-4 CAPLUS
CN Benzo[1,2-d:4,5-d']bisoxazolium, 2,6-bis[2-(5-acetyl-3-methyl-5H-oxazolo[4,5-b]phenoxazinium-2-yl)ethenyl]-3,7-diethyl-, tetraiodide (9CI) (CA INDEX NAME)

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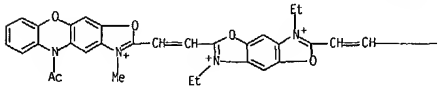

●4 I-

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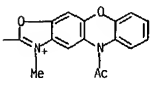
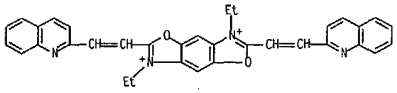


RN 69710-10-7 CAPLUS
CN Benzo[1,2-d:4,5-d']bisoxazolium, 3,7-diethyl-2,6-bis[2-(2-quinolinyl)ethenyl]-, diiodide (9CI) (CA INDEX NAME)

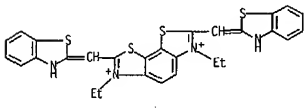


●2 I-

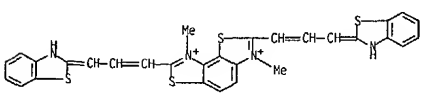
RN 69710-11-8 CAPLUS
CN Benzo[1,2-d:4,5-d']bisoxazolium, 2,6-bis[2-(2-benzoxazolyl)-1-hydroxyethyl]-3,7-diethyl-, diiodide (9CI) (CA INDEX NAME)

L7 ANSWER 22 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1978:606748 CAPLUS
DOCUMENT NUMBER: 89:206748
TITLE: Effect of resonance interaction on absorption spectra of dyes with two chromophores
AUTHOR(S): Borisevich, Yu. E.
CORPORATE SOURCE: Inst. Khim. Fiz., Moscow, USSR
SOURCE: Doklady Akademii Nauk SSSR (1978), 241(6), 1359-62 [Phys. Chem.]
CODEN: DANKAS; ISSN: 0002-3264
DOCUMENT TYPE: Journal
LANGUAGE: Russian
ABSTRACT:
Since the size of splitting in the absorption spectra of dyes with 2 chromophores depends on the structure of the central nucleus binding the chromophores, then the effect of the nucleus is reduced to regulation of the size of the resonance interaction between the chromophores.

IT 68208-86-6D, derivs. 68208-87-7D, derivs.
68208-88-8D, derivs. 68208-89-9D, derivs.
68208-90-2D, derivs. 68208-91-3D, derivs.
68224-40-8D, derivs. 68224-41-9D, derivs.
RL: PRP (Properties)
(absorption spectrum of, resonance interaction effect on)
RN 68208-86-6 CAPLUS
CN Benzo[1,2-d:4,3-d']bisthiazolium, 2,7-bis(2(3H)-benzothiazolylidenemethyl)-3,6-diethyl- (9CI) (CA INDEX NAME)

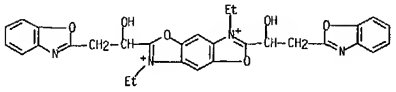


RN 68208-87-7 CAPLUS
CN Benzo[1,2-d:3,4-d']bisthiazolium, 2,7-bis[3-(2(3H)-benzothiazolylidene)-1-propenyl]-3,8-dimethyl- (9CI) (CA INDEX NAME)



RN 68208-88-8 CAPLUS
CN Benzo[1,2-d:4,3-d']bisthiazolium, 2,7-bis[3-(2(3H)-benzothiazolylidene)-1-

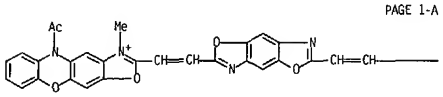
L7 ANSWER 21 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)



●2 I-

RN 69710-13-0 CAPLUS
CN 5H-Oxazolo[4,5-b]phenoxazinium, 5-acetyl-2-[2-[6-[2-(1-ethylquinolinium-2-yl)ethenyl]benzo[1,2-d:4,5-d']bisoxazol-2-yl]ethenyl]-3-methyl-, diiodide (9CI) (CA INDEX NAME)

PAGE 1-A



●2 I-

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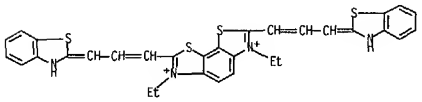
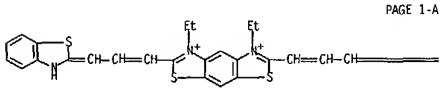
L7 ANSWER 22 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)
propenyl]-3,6-diethyl- (9CI) (CA INDEX NAME)



RN 68208-89-9 CAPLUS
CN Benzo[1,2-d:5,4-d']bisthiazolium, 2,6-bis[3-(2(3H)-benzothiazolylidene)-1-propenyl]-3,5-diethyl- (9CI) (CA INDEX NAME)

PAGE 1-A



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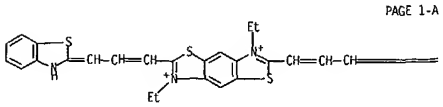
RN 68208-90-2 CAPLUS
CN Benzo[1,2-d:4,5-d']bisthiazolium, 2,6-bis[3-(2(3H)-benzothiazolylidene)-1-propenyl]-3,7-diethyl- (9CI) (CA INDEX NAME)

PAGE 1-A



L7 ANSWER 22 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

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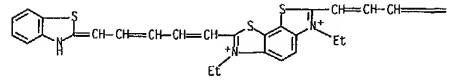
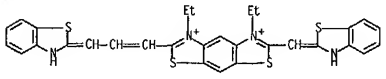
RN 68208-91-3 CAPLUS
CN Benzo[1,2-d:4,3-d']bisthiazolium, 2,7-bis[5-(2(3H)-benzothiazolylidene)-1,3-pentadienyl]-3,6-diethyl- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

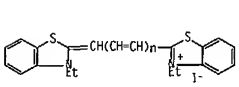
RN 68224-40-8 CAPLUS
CN Benzo[1,2-d:5,4-d']bisthiazolium, 2-(2(3H)-benzothiazolylidenemethyl)-6-[3-(2(3H)-benzothiazolylidene)-1-propenyl]-3,5-diethyl- (9CI) (CA INDEX NAME)



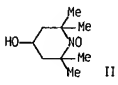
RN 68224-41-9 CAPLUS
CN Benzo[1,2-d:5,4-d']bisthiazolium, 2,6-bis(2(3H)-benzothiazolylidenemethyl)-3,5-diethyl- (9CI) (CA INDEX NAME)

L7 ANSWER 23 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN

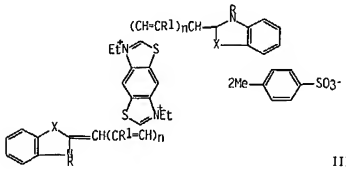
ACCESSION NUMBER: 1978:135810 CAPLUS
DOCUMENT NUMBER: 88:135810
TITLE: Charge transfer complexing in the course of triplet state quenching of carbocyanine dyes by the nitroxyl radical
AUTHOR(S): Kuz'min, V. A.; Tatikolov, A. S.; Borisevich, Yu. E.
CORPORATE SOURCE: Inst. Chem. Phys., Moscow, USSR
SOURCE: Chemical Physics Letters (1978), 53(1), 52-5
CODEN: CHPLBC; ISSN: 0009-2614
DOCUMENT TYPE: Journal
LANGUAGE: English
GRAPHIC IMAGE:



I



II

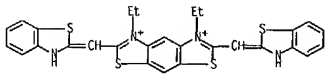


III

ABSTRACT:
Quenching of triplet state I (n = 1, 2, 3) by II occurs via enhanced intersystem crossing on exchange interaction with the radical. Quenching of triplet state carbocyanine dyes with two polymethyne chains (e.g., III; n = 1,2; X = S, CMe2; R = Me, Et; R1 = H, Me) occurs via partial charge transfer in the collision complex with the radical. In the second case, an increase in the dielec. const. of the solvent leads to an increase of the rate of quenching. In high polarity (propanol, methanol) complete electron transfer from dye triplet state to radical occurs. Kinetic and spectral characteristics of the cation radical of III (n = 1, X = S, R = Et, R1 = H) are reported.

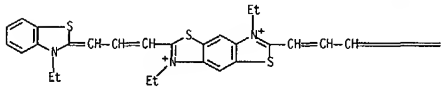
IT 62258-17-7P
RL: PRP (Properties); PREP (Preparation)
(formation and spectrum of)
RN 62258-17-7 CAPLUS

L7 ANSWER 22 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)



L7 ANSWER 23 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)
CN Benzo[1,2-d:4,5-d']bisthiazolium, 3,7-diethyl-2,6-bis[3-(3-ethyl-2(3H)-benzothiazolylidene)-1-propenyl]-, radical ion(1+) (9CI) (CA INDEX NAME)

PAGE 1-A

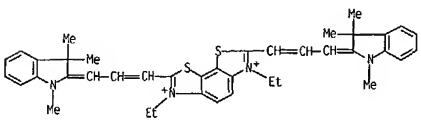


PAGE 1-B

IT 38133-72-1 54998-68-4 62258-13-3
62258-15-5 62287-65-4 62287-66-5
65936-53-0
RL: PROC (Process)
(triplet quenching of, by nitroxyl radical)
RN 38133-72-1 CAPLUS
CN Benzo[1,2-d:4,3-d']bisthiazolium, 2,7-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,6-diethyl-, diperchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 47862-94-2
CMF C40 H44 N4 S2



CM 2

CRN 14797-73-0

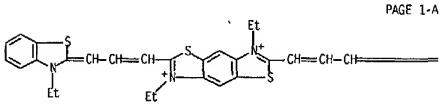
L7 ANSWER 23 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)
CMF C1 O4

RN 54998-68-4 CAPLUS
CN Benzo[1,2-d:4.5-d']bisthiazolium, 3,7-diethyl-2,6-bis[3-(3-ethyl-2(3H)-benzothiazolylidene)-1-propenyl]-, salt with 4-methylbenzenesulfonic acid (1:2) (9CI) (CA INDEX NAME)

CM 1

CRN 54998-67-3
CMF C36 H36 N4 S4

PAGE 1-A

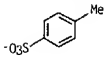


PAGE 1-B

CM 2

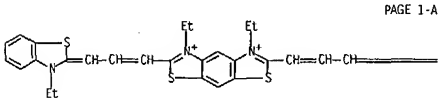
CRN 16722-51-3
CMF C7 H7 O3 S

L7 ANSWER 23 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)



RN 62258-13-3 CAPLUS
CN Benzo[1,2-d:5.4-d']bisthiazolium, 3,5-diethyl-2,6-bis[3-(3-ethyl-2(3H)-benzothiazolylidene)-1-propenyl]-, diiodide (9CI) (CA INDEX NAME)

PAGE 1-A



●2 I-

PAGE 1-B

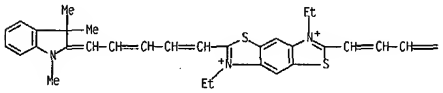
RN 62258-15-5 CAPLUS
CN Benzo[1,2-d:4.5-d']bisthiazolium, 2,6-bis[5-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1,3-pentadienyl]-3,7-diethyl-, salt with 4-methylbenzenesulfonic acid (1:2) (9CI) (CA INDEX NAME)

CM 1

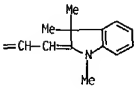
CRN 62258-14-4
CMF C44 H48 N4 S2

L7 ANSWER 23 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

PAGE 1-A

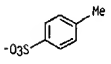


PAGE 1-B

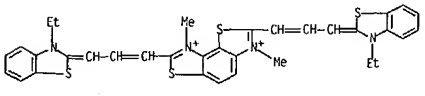


CM 2

CRN 16722-51-3
CMF C7 H7 O3 S



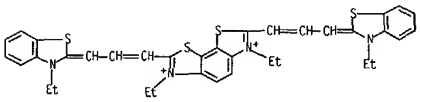
RN 62287-65-4 CAPLUS
CN Benzo[1,2-d:3.4-d']bisthiazolium, 2,7-bis[3-(3-ethyl-2(3H)-benzothiazolylidene)-1-propenyl]-3,8-dimethyl-, dibromide (9CI) (CA INDEX NAME)



●2 Br-

RN 62287-66-5 CAPLUS

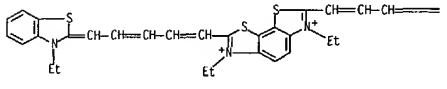
L7 ANSWER 23 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)
CN Benzo[1,2-d:4.3-d']bisthiazolium, 3,6-diethyl-2,7-bis[3-(3-ethyl-2(3H)-benzothiazolylidene)-1-propenyl]-, diiodide (9CI) (CA INDEX NAME)



●2 I-

RN 65936-53-0 CAPLUS
CN Benzo[1,2-d:4.3-d']bisthiazolium, 3,6-diethyl-2-[5-(3-ethyl-2(3H)-benzothiazolylidene)-1,3-pentadienyl]-7-[3-(3-ethyl-2(3H)-benzothiazolylidene)-1-propenyl]-, diiodide (9CI) (CA INDEX NAME)

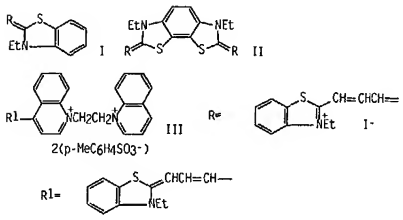
PAGE 1-A



●2 I-

PAGE 1-B

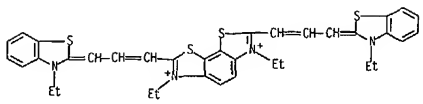
L7 ANSWER 24 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1977:440722 CAPLUS
DOCUMENT NUMBER: 87:40722
TITLE: Pressure induced changes in light absorption of polymethine dyes with two interacting chromophores
AUTHOR(S): Claesson, S.; Backman, C. M.; Borisevich, Yu. E.; Kuz'min, V. A.
CORPORATE SOURCE: Inst. Phys. Chem., Univ. Uppsala, Uppsala, Swed.
SOURCE: Chemica Scripta (1976), 10(3), 141-2
CODEN: CSRPB9; ISSN: 0004-2056
DOCUMENT TYPE: Journal
LANGUAGE: English
GRAPHIC IMAGE:



ABSTRACT:
The absorption max. of dyes I [905-97-5], II [62287-66-5], or III [52818-40-3] in polar solvents is shifted only slightly by pressures .ltoreq.314 MPa, but large shifts are obsd. when pressure is applied to II or III in less polar solvents. These large shifts are attributed to changes in the angle between chromophores in II and III.

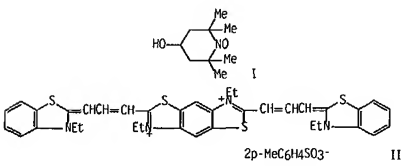
IT 62287-66-5
RL: PRP (Properties)
(visible spectrum of, in polar and nonpolar solvents of, effect of pressure on)
RN 62287-66-5 CAPLUS
CN Benzo[1,2-d:4,3-d']bisthiazolium, 3,6-diethyl-2,7-bis[3-(3-ethyl-2(3H)-benzothiazolylidene)-1-propenyl]-, diiodide (9CI) (CA INDEX NAME)

L7 ANSWER 24 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)



2 I-

L7 ANSWER 25 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1977:141600 CAPLUS
DOCUMENT NUMBER: 86:141600
TITLE: Electron transfer from triplet states of bis(carbocyanine) dyes to nitroxyl radicals
AUTHOR(S): Borisevich, Yu. E.; Tatikolov, A. S.; Mikhailenko, F. A.; Kuz'min, V. A.
CORPORATE SOURCE: Inst. Khim. Fiz., Moscow, USSR
SOURCE: Doklady Akademii Nauk SSSR (1977), 232(3), 596-9 [Phys. Chem.]
CODEN: DANKAS; ISSN: 0002-3264
DOCUMENT TYPE: Journal
LANGUAGE: Russian
GRAPHIC IMAGE:



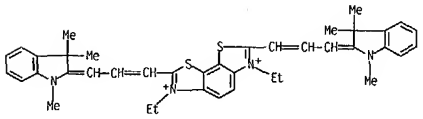
ABSTRACT:
The quenching of the triplet state of bis(cyanine) dyes by the nitroxyl radical I [2226-96-2] at room temp. involves formation of a charge-transfer complex, which decomposes either to the ground state of the dye and I (which is equiv. to intersystem crossing) or to the cation radical of the dye and the anion of I, depending on the dielec. const. of the alc. solvent. The quenching rate const. depends on the difference between the ionization potential of the dye and its triplet energy level, both of which decrease with increasing length of the polymethine chains for dyes with a single chromophore; because of chromophore interaction the triplet energy level of 2-chromophore dyes changes less with increasing polymethine chain length than the ionization potential, thus decreasing the difference and facilitating charge-transfer complex formation. The angle between chromophores has little effect on the quenching rate const. The short-lived cation radical of II [54998-68-4] was detected by its visible absorption spectrum (by difference) with .lambda.max .apprx.700 nm. It apparently disappears by reaction with the alc. solvent to produce H+ and the alc. .alpha.-free radical.

IT 38133-72-1 52029-80-8 54998-68-4
62258-13-3 62258-15-5 62287-65-4
62287-66-5
RL: PRP (Properties)
(quenching rate of triplet state of, by piperidinyloxy radical)

L7 ANSWER 25 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)
RN 38133-72-1 CAPLUS
CN Benzo[1,2-d:4,3-d']bisthiazolium, 2,7-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,6-diethyl-, diperchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 47862-94-2
CMF C40 H44 N4 S2

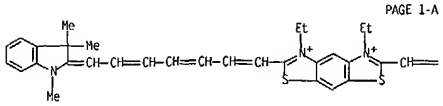


CM 2

CRN 14797-73-0
CMF Cl O4

RN 52029-80-8 CAPLUS
CN Benzo[1,2-d:5,4-d']bisthiazolium, 2,6-bis[7-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1,3,5-heptatrienyl-3,5-diethyl-, dichloride (9CI) (CA INDEX NAME)

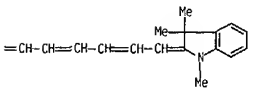
PAGE 1-A



2 Cl-

L7 ANSWER 25 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

PAGE 1-B

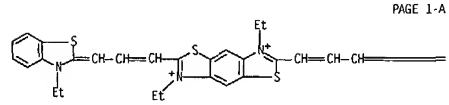


RN 54998-68-4 CAPLUS
CN Benzo[1,2-d:4,5-d']bisthiazolium, 3,7-diethyl-2,6-bis[3-(3-ethyl-2(3H)-benzothiazolylidene)-1-propenyl]-, salt with 4-methylbenzenesulfonic acid (1:2) (9CI) (CA INDEX NAME)

CM 1

CRN 54998-67-3
CMF C36 H36 N4 S4

PAGE 1-A



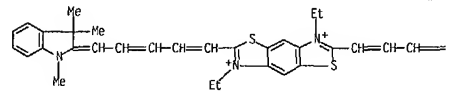
PAGE 1-B

CM 2

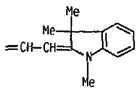
CRN 16722-51-3
CMF C7 H7 O3 S

L7 ANSWER 25 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

PAGE 1-A

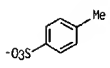


PAGE 1-B

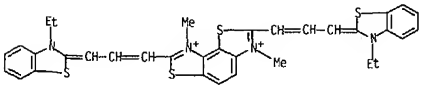


CM 2

CRN 16722-51-3
CMF C7 H7 O3 S



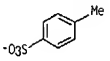
RN 62287-65-4 CAPLUS
CN Benzo[1,2-d:3,4-d']bisthiazolium, 2,7-bis[3-(3-ethyl-2(3H)-benzothiazolylidene)-1-propenyl]-3,8-dimethyl-, dibromide (9CI) (CA INDEX NAME)



●2 Br-

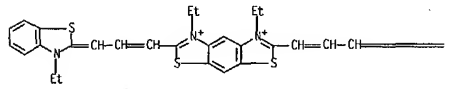
RN 62287-66-5 CAPLUS

L7 ANSWER 25 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)



RN 62258-13-3 CAPLUS
CN Benzo[1,2-d:5,4-d']bisthiazolium, 3,5-diethyl-2,6-bis[3-(3-ethyl-2(3H)-benzothiazolylidene)-1-propenyl]-, diiodide (9CI) (CA INDEX NAME)

PAGE 1-A



●2 I-

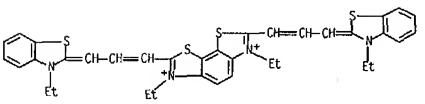
PAGE 1-B

RN 62258-15-5 CAPLUS
CN Benzo[1,2-d:4,5-d']bisthiazolium, 2,6-bis[5-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1,3-pentadienyl]-3,7-diethyl-, salt with 4-methylbenzenesulfonic acid (1:2) (9CI) (CA INDEX NAME)

CM 1

CRN 62258-14-4
CMF C44 H48 N4 S2

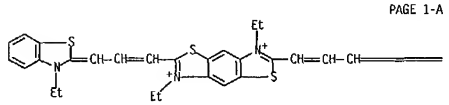
L7 ANSWER 25 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)
CN Benzo[1,2-d:4,3-d']bisthiazolium, 3,6-diethyl-2,7-bis[3-(3-ethyl-2(3H)-benzothiazolylidene)-1-propenyl]-, diiodide (9CI) (CA INDEX NAME)



●2 I-

IT 62258-17-7
RL: PRP (Properties)
(visible absorption spectrum of)
RN 62258-17-7 CAPLUS
CN Benzo[1,2-d:4,5-d']bisthiazolium, 3,7-diethyl-2,6-bis[3-(3-ethyl-2(3H)-benzothiazolylidene)-1-propenyl]-, radical ion(1+) (9CI) (CA INDEX NAME)

PAGE 1-A

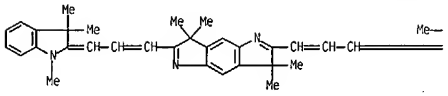


PAGE 1-B

L7 ANSWER 26 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1977:18342 CAPLUS
DOCUMENT NUMBER: 86:18342
TITLE: Reaction of bases of polymethine dyes with transition metal salts
AUTHOR(S): Voevodskaya, M. V.; Kuz'min, V. A.; Khudyakov, I. V.
CORPORATE SOURCE: Inst. Khim. Fiz., Moscow, USSR
SOURCE: Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya (1976), (9), 1991-4
CODEN: IASKA6; ISSN: 0002-3353
DOCUMENT TYPE: Journal
LANGUAGE: Russian
GRAPHIC IMAGE: For diagram(s), see printed CA Issue.
ABSTRACT:
Complex formation between transition metals and carbocyanine dye bases I (R = Me, Et; A = pyridine, quinoline, benzothiazole residue), some styryl analogs, and II [61109-41-9] shifts the absorption max. of the bases to greater wavelength by 80-140 nm. The resulting spectra closely resemble those of the protonated forms of the dye bases, which suggests that coordination to the metal is via the basic N of the ligand rather than the .pi.-bonds of the cyanine chain. The nature of the metal (Co, Cu, Ni, Cr, Cd) has little effect on the spectra of the complexes if formed, but with some of the bases not all of the metals are effective in complex formation. The equil. consts. for complex formation detd. for I (R = Me, A = quinoline residue) [3595-49-1] were .apprx.2 orders of magnitude greater for Cu(NO3)2 and Cr(NO3)3 than for the other metal nitrates. The metal complexes are known to show high-temp. supercond.

IT **61109-41-9D**, transition metal complexes
RL: USES (Uses)
(absorption max. of)
RN 61109-41-9 CAPLUS
CN Benzo[1.2-b:4.5-b']dipyrrole, 2,6-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,7-dihydro-3,3,7,7-tetramethyl- (9CI) (CA INDEX NAME)

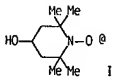
PAGE 1-A



L7 ANSWER 26 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

PAGE 1-B

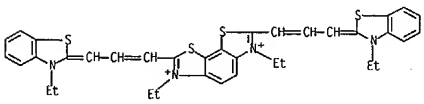
L7 ANSWER 27 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1977:10212 CAPLUS
DOCUMENT NUMBER: 86:10212
TITLE: Role of charge transfer complexes during the quenching of triplet states of carbocyanine dyes by nitroxyl radicals
AUTHOR(S): Kuz'min, V. A.; Tatikolov, A. S.; Borisevich, Yu. E.
CORPORATE SOURCE: Inst. Khim. Fiz., Moscow, USSR
SOURCE: Doklady Akademii Nauk SSSR (1976), 229(5), 1159-62 [Phys. Chem.]
CODEN: DANKAS; ISSN: 0002-3264
DOCUMENT TYPE: Journal
LANGUAGE: Russian
GRAPHIC IMAGE:



I

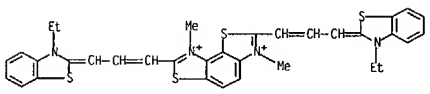
ABSTRACT:
The quenching of the triplet states of 6 carbocyanine dyes by tanol occurs not only according to the mechanism of the increase of intercombination conversion but also according the mechanism for the formation of charge transfer complexes. For bis-cyanine dyes the mechanism of charge transfer is preferred, due to the very low ionization potential of these dyes in the triplet state.

IT **59970-97-7 59970-98-8 59971-00-5**
RL: PRP (Properties)
(quenching of triplet states of, by nitroxyl radicals, charge-transfer complex formation in)
RN 59970-97-7 CAPLUS
CN Benzo[1,2-d:4,3-d']bisthiazolium, 3,6-diethyl-2,7-bis[3-(3-ethyl-2(3H)-benzothiazolylidene)-1-propenyl]- (9CI) (CA INDEX NAME)



RN 59970-98-8 CAPLUS
CN Benzo[1,2-d:3,4-d']bisthiazolium, 2,7-bis[3-(3-ethyl-2(3H)-benzothiazolylidene)-1-propenyl]-3,8-dimethyl- (9CI) (CA INDEX NAME)

L7 ANSWER 27 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)



RN 59971-00-5 CAPLUS
CN Benzo[1.2-d:4,3-d']bisthiazolium, 3,6-diethyl-2-[5-(3-ethyl-2(3H)-benzothiazolylidene)-1,3-pentadienyl]-7-[3-(3-ethyl-2(3H)-benzothiazolylidene)-1-propenyl]- (9CI) (CA INDEX NAME)

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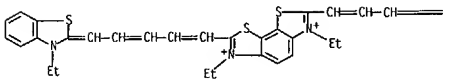
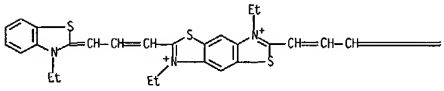


PAGE 1-B

L7 ANSWER 28 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1976:551183 CAPLUS
DOCUMENT NUMBER: 85:151183
TITLE: Effect of the splitting of triplet levels of biscyanine dyes
AUTHOR(S): Kuz'min, V. A.; Borisevich, Yu. E.; Dyadyusha, G. G.; Mikhailenko, F. A.
CORPORATE SOURCE: Inst. Khim. Fiz., Moscow, USSR
SOURCE: Doklady Akademii Nauk SSSR (1976), 229(1), 131-4 [Phys. Chem.]
CODEN: DANKAS; ISSN: 0002-3264
DOCUMENT TYPE: Journal
LANGUAGE: Russian
ABSTRACT:
The triplet-triplet absorption spectra of 4 biscyanine dyes (benzothiazole derivs.) were investigated with pulsed photolysis equipment and spectrophotometric recording. The structural formulas of the dyes and their singlet-singlet and triplet-triplet absorption spectra are given, as well as an energy-level scheme (for mono- and biscyanine dyes). The triplet-triplet spectra can be interpreted as detd. by triplet-triplet interaction with singlet-singlet transitions, instead of simply triplet-triplet interaction.

IT **54998-67-3 59970-97-7 59970-98-8**
59970-99-9
RL: PRP (Properties)
(splitting of triplet levels of)
RN 54998-67-3 CAPLUS
CN Benzo[1,2-d:4,5-d']bisthiazolium, 3,7-diethyl-2,6-bis[3-(3-ethyl-2(3H)-benzothiazolylidene)-1-propenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A



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L7 ANSWER 28 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

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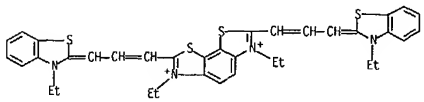
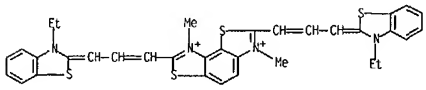
L7 ANSWER 28 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

RN 59970-97-7 CAPLUS
CN Benzo[1,2-d:4,3-d']bisthiazolium, 3,6-diethyl-2,7-bis[3-(3-ethyl-2(3H)-benzothiazolylidene)-1-propenyl]- (9CI) (CA INDEX NAME)



RN 59970-98-8 CAPLUS
CN Benzo[1,2-d:3,4-d']bisthiazolium, 2,7-bis[3-(3-ethyl-2(3H)-benzothiazolylidene)-1-propenyl]-3,8-dimethyl- (9CI) (CA INDEX NAME)



RN 59970-99-9 CAPLUS
CN Benzo[1,2-d:5,4-d']bisthiazolium, 3,5-diethyl-2,6-bis[3-(3-ethyl-2(3H)-benzothiazolylidene)-1-propenyl]- (9CI) (CA INDEX NAME)

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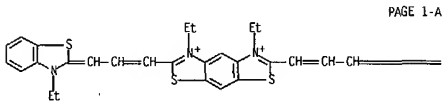
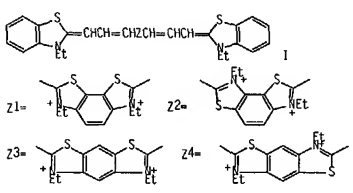


L7 ANSWER 29 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1976:479659 CAPLUS
DOCUMENT NUMBER: 85:79659
TITLE: Triplet states of biscyanine dyes
AUTHOR(S): Borisevich, Yu. E.; Kuz'min, V. A.; Mikhailenko, F. A.; Dyadyusha, G. G.
CORPORATE SOURCE: Inst. Khim. Fiz., Moscow, USSR
SOURCE: Doklady Akademii Nauk SSSR (1976), 228(2), 375-8 [Phys. Chem.]
CODEN: DANKAS; ISSN: 0002-3264
DOCUMENT TYPE: Journal
LANGUAGE: Russian
GRAPHIC IMAGE:

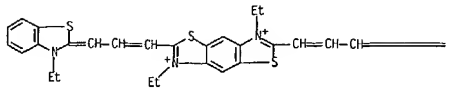


ABSTRACT:
The singlet and (by difference) triplet absorption spectra were detd. for the isomeric biscyanines I (Z = Z1-Z4) with angles between chromophores 90, 120, 150, and 180.degree., resp., by direct flash photolysis. The delayed fluorescence was also detd. for I (10-7M) sensitized by anthracene (10-4M) in PrOH. The disappearance of the triplet state followed 1st-order kinetics, and the rates were the same in the direct and sensitized cases. In triplet state was obsd. in the presence of O. Interaction between chromophores was weaker in the case of I (Z = Z1CH:CH) [59971-00-5], since its 2 chromophores absorbed in different spectral regions. This cyanine could not be excited directly to the triplet state, but the latter could be formed with the aid of anthracene. The ordinary and delayed fluorescence spectra were identical, with .lambda.max 730 nm.

IT **54998-67-3 59970-97-7 59970-98-8**
59970-99-9 59971-00-5
RL: PROC (Process)
(triplet state spectra and decay of)
RN 54998-67-3 CAPLUS
CN Benzo[1,2-d:4,5-d']bisthiazolium, 3,7-diethyl-2,6-bis[3-(3-ethyl-2(3H)-benzothiazolylidene)-1-propenyl]- (9CI) (CA INDEX NAME)

L7 ANSWER 29 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

PAGE 1-A



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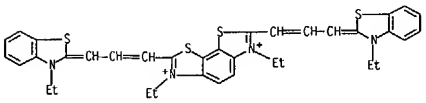
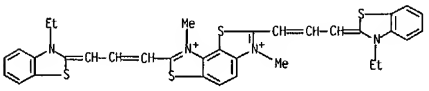
RN 59970-97-7 CAPLUS
CN Benzo[1.2-d:4.3-d']bisthiazolium, 3,6-diethyl-2,7-bis[3-(3-ethyl-2(3H)-benzothiazolylidene)-1-propenyl]- (9CI) (CA INDEX NAME)



RN 59970-98-8 CAPLUS
CN Benzo[1.2-d:3.4-d']bisthiazolium, 2,7-bis[3-(3-ethyl-2(3H)-benzothiazolylidene)-1-propenyl]-3,8-dimethyl- (9CI) (CA INDEX NAME)



RN 59970-99-9 CAPLUS
CN Benzo[1.2-d:5.4-d']bisthiazolium, 3,5-diethyl-2,6-bis[3-(3-ethyl-2(3H)-benzothiazolylidene)-1-propenyl]- (9CI) (CA INDEX NAME)

L7 ANSWER 30 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1976:166225 CAPLUS
DOCUMENT NUMBER: 84:166225
TITLE: Studies on cyanine dyes. I. Synthesis of new oxacyanine dyes
AUTHOR(S): Osman, A. M.; Khalil, Z. H.
CORPORATE SOURCE: Dep. Chem., Assiut Univ., Assiut, Egypt
SOURCE: Journal of Applied Chemistry & Biotechnology (1975), 25(9), 683-93
CODEN: JACBBD; ISSN: 0375-9210
DOCUMENT TYPE: Journal
LANGUAGE: English
GRAPHIC IMAGE: For diagram(s), see printed CA Issue.
ABSTRACT:

Bisoxacyanine dyes were prepd. by reaction of 2,6-dimethylbenzobisoxazole 3,7-bis(ethiodide) (I) [59013-31-9] with active carbonyl compds. Thus, I with PhCHO [100-52-7] in the presence of ZnCl2, with acetylacetone [123-54-6] in the presence of EtOH and piperidine, and with maleic anhydride [108-31-6] in the presence of Ac2O gave the styrylcyanine (II) [59013-53-5], the merocyanine (III) [59013-54-6], and trimethinecyanine (IV) [59013-55-7], resp.

IT 59013-47-7P 59013-49-9P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

RN 59013-47-7 CAPLUS
CN Benzo[1.2-d:4.5-d']bisoxazolium, 3,7-diethyl-2,6-bis[3-(1-ethyl-2(1H)-quinolinylidene)-1-propenyl]-, diiodide (9CI) (CA INDEX NAME)

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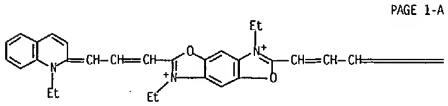

●2 I-

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RN 59013-49-9 CAPLUS
CN Benzo[1.2-d:4.5-d']bisoxazolium, 3,7-diethyl-2,6-bis[3-(1-ethylnaphtho[1.2-

L7 ANSWER 29 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

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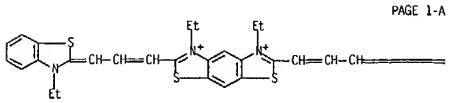

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RN 59971-00-5 CAPLUS
CN Benzo[1.2-d:4.3-d']bisthiazolium, 3,6-diethyl-2-[5-(3-ethyl-2(3H)-benzothiazolylidene)-1,3-pentadienyl]-7-[3-(3-ethyl-2(3H)-benzothiazolylidene)-1-propenyl]- (9CI) (CA INDEX NAME)

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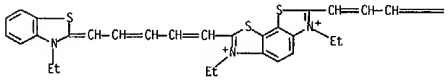
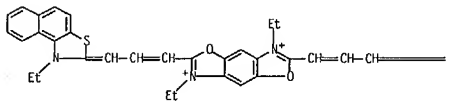


PAGE 1-B

L7 ANSWER 30 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

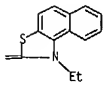
d]thiazol-2(1H)-ylidene)-1-propenyl]-, diiodide (9CI) (CA INDEX NAME)

PAGE 1-A



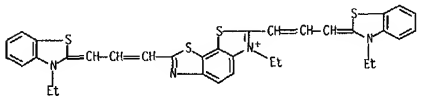
●2 I-

PAGE 1-B



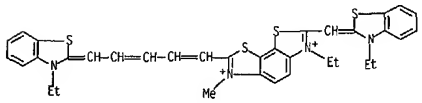
L7 ANSWER 31 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1975:516914 CAPLUS
DOCUMENT NUMBER: 83:116914
TITLE: Interaction of chromophores in biscyanines with chromophore chains of various lengths
AUTHOR(S): Kiprianov, A. I.; Fridman, S. G.; Dyadyusha, G. G.; Kotova, L. I.
CORPORATE SOURCE: Inst. Org. Khim., Kiev, USSR
SOURCE: Zhurnal Organicheskoi Khimii (1975), 11(4), 891-6
CODEN: ZORKAE; ISSN: 0514-7492
DOCUMENT TYPE: Journal
LANGUAGE: Russian
GRAPHIC IMAGE: For diagram(s), see printed CA Issue.
ABSTRACT:
Chromophore interaction was observed in the absorption spectra of 6 bis(thiacyanines) (I; m = n = 0-2, R = Et; 2 .gtoreq. m > n, R = Me). The sharp splitting in the spectrum of I (n = 1, m = 2, R = Me) [56154-09-7] in comparison with the unsym. I with n = 0 was attributed not to increased interaction between the chromophores, but to a decreased difference in excitation energy between the interacting chromophores. The spectra of the partially acid-decolorized I resembled those of the monocyanines with the same nuclei.

IT 56254-85-4
RL: PRP (Properties)
(absorption spectra of, chromophore interaction in)
RN 56254-85-4 CAPLUS
CN Benzo[1,2-d:4,3-d']bisthiazolium, 3-ethyl-2,7-bis[3-(3-ethyl-2(3H)-benzothiazolylidene)-1-propenyl]- (9CI) (CA INDEX NAME)



IT **56045-90-0P 56045-91-1P 56045-92-2P**
56045-93-3P 56154-09-7P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and spectra of)
RN 56045-90-0 CAPLUS
CN Benzo[1,2-d:4,3-d']bisthiazolium, 3,6-diethyl-2,7-bis[(3-ethyl-2(3H)-benzothiazolylidene)methyl]- (9CI) (CA INDEX NAME)

L7 ANSWER 31 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)
CN Benzo[1,2-d:4,3-d']bisthiazolium, 3-ethyl-2-[(3-ethyl-2(3H)-benzothiazolylidene)methyl]-7-[5-(3-ethyl-2(3H)-benzothiazolylidene)-1,3-pentadienyl]-6-methyl- (9CI) (CA INDEX NAME)



RN 56154-09-7 CAPLUS
CN Benzo[1,2-d:4,3-d']bisthiazolium, 3-ethyl-7-[5-(3-ethyl-2(3H)-benzothiazolylidene)-1,3-pentadienyl]-2-[3-(3-ethyl-2(3H)-benzothiazolylidene)-1-propenyl]-6-methyl- (9CI) (CA INDEX NAME)

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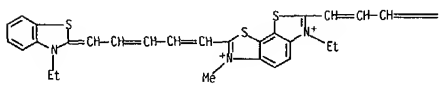

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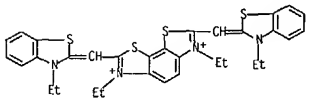
L7 ANSWER 31 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)



RN 56045-91-1 CAPLUS
CN Benzo[1,2-d:4,3-d']bisthiazolium, 3,6-diethyl-2,7-bis[5-(3-ethyl-2(3H)-benzothiazolylidene)-1,3-pentadienyl]- (9CI) (CA INDEX NAME)

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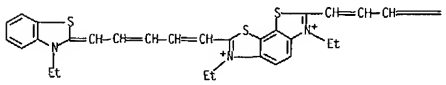
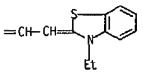
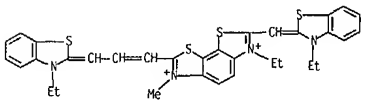


PAGE 1-B



RN 56045-92-2 CAPLUS
CN Benzo[1,2-d:4,3-d']bisthiazolium, 3-ethyl-2-[(3-ethyl-2(3H)-benzothiazolylidene)methyl]-7-[3-(3-ethyl-2(3H)-benzothiazolylidene)-1-propenyl]-6-methyl- (9CI) (CA INDEX NAME)



RN 56045-93-3 CAPLUS

L7 ANSWER 32 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1975:516913 CAPLUS
DOCUMENT NUMBER: 83:116913
TITLE: Polymethine dyes with several conjugated chromophores
AUTHOR(S): Mikhailenko, F. A.; Dyadyusha, G. G.; Boguslavskaya, A. N.
CORPORATE SOURCE: Inst. Org. Khim., Kiev, USSR
SOURCE: Khimiya Geterotsiklicheskikh Soedinenii (1975), (3), 370-6
CODEN: KGSSAQ; ISSN: 0132-6244
DOCUMENT TYPE: Journal
LANGUAGE: Russian
GRAPHIC IMAGE: For diagram(s), see printed CA Issue.
ABSTRACT:
Triscarbocyanines I (n = 2, Z = Z2, Z3, and 3 isomers of Z3) were prepd. analogously to I (n = 2, Z = Z1, R = Me, X = MeSO4) [55953-42-9] (Mikhailenko, F. A.; Boguslavskaya, A. N., 1971) and their absorption spectra interpreted in terms of chromophore interaction. For those I showing 3 asorption max., the prediction that the frequency difference (.DELTA., .nu.) between the highest- and lowest-frequency peak would be 20.5 times as great as .DELTA. .nu. for the 2 max. of the corresponding biscarbocyanine was confirmed. I (n = 3, Z = Z1, R = Et, X = Br) [56044-46-3] was prepd. by treating 3 mmoles each of 1,5-diethyl-2,3,3,6,7,7-hexamethylbenzo[1,2-b:4,5-b']dipyrrolium ditosylate [55953-41-8] and 2-(formylmethylene)-1,3,3-trimethylindoline [84-83-3] with Ac2O in refluxing AcOH and condensing the product with 1 mmole diquaternary salt II [55953-44-1] in refluxing Ac2O.

IT 33279-11-7
RL: PRP (Properties)
(absorption spectra of, chromophore interaction in)
RN 33279-11-7 CAPLUS
CN Benzo[1,2-b:4,5-b']dipyrrolium, 2-[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-6-[3-[6-[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,7-dihydro-1,3,3,5,7,7-hexamethylbenzo[1,2-b:4,5-b']dipyrrolium-2(1H)-ylidene]-1-propenyl]-3,7-dihydro-1,3,3,5,7,7-hexamethyl-, tris(methyl sulfate) (9CI) (CA INDEX NAME)

CM 1

CRN 41011-59-0
CMF C63 H75 N6

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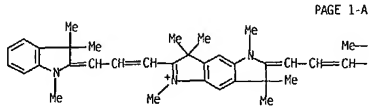

L7 ANSWER 32 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

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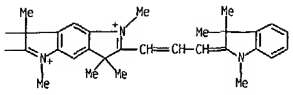


CM 2

CRN 21228-90-0
CMF C H3 O4 S

Me—O—SO3-

IT 55953-30-5P 55953-32-7P 55953-34-9P
55953-35-0P 56044-46-3P 56044-64-5P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and absorption spectra of)

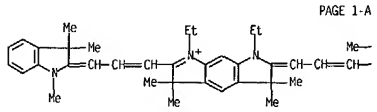
RN 55953-30-5 CAPLUS

CN Benzo[1,2-b:5,4-b']dipyrrolium, 2-[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-6-[3-[6-[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-1,7-diethyl-3,5-dihydro-3,3,5,5-tetramethylbenzo[1,2-b:5,4-b']dipyrrolium-2(3H)-ylidene]-1-propenyl]-1,7-diethyl-3,5-dihydro-3,3,5,5-tetramethyl-, triperchlorate (9CI) (CA INDEX NAME)

CM 1

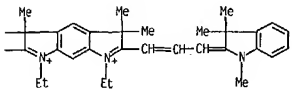
CRN 55953-29-2
CMF C67 H83 N6

PAGE 1-A



L7 ANSWER 32 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

PAGE 1-B



CM 2

CRN 14797-73-0
CMF Cl O4

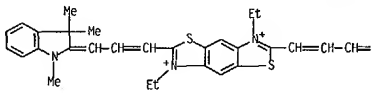
RN 55953-32-7 CAPLUS

CN Benzo[1,2-d:4,5-d']bisthiazolium, 2-[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-6-[3-[6-[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,7-diethylbenzo[1,2-d:4,5-d']bisthiazolium-2(3H)-ylidene]-1-propenyl]-3,7-diethyl-, triperchlorate (9CI) (CA INDEX NAME)

CM 1

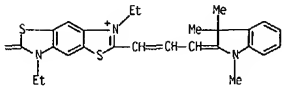
CRN 55953-31-6
CMF C55 H59 N6 S4

PAGE 1-A



L7 ANSWER 32 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

PAGE 1-B



CM 2

CRN 14797-73-0
CMF Cl O4

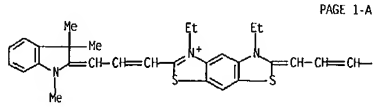
RN 55953-34-9 CAPLUS

CN Benzo[1,2-d:5,4-d']bisthiazolium, 2-[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-6-[3-[6-[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,5-diethylbenzo[1,2-d:5,4-d']bisthiazolium-2(3H)-ylidene]-1-propenyl]-3,5-diethyl-, triperchlorate (9CI) (CA INDEX NAME)

CM 1

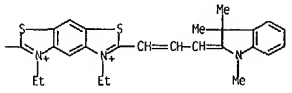
CRN 55953-33-8
CMF C55 H59 N6 S4

PAGE 1-A



L7 ANSWER 32 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

PAGE 1-B



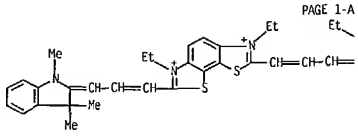
CM 2

CRN 14797-73-0
CMF Cl O4

RN 55953-35-0 CAPLUS

CN Benzo[1,2-d:4,3-d']bisthiazolium, 2-[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-7-[3-[7-[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,6-diethylbenzo[1,2-d:4,3-d']bisthiazolium-2(3H)-ylidene]-1-propenyl]-3,6-diethyl-, triiodide (9CI) (CA INDEX NAME)

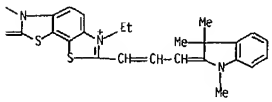
PAGE 1-A



●3 I-

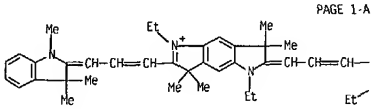
L7 ANSWER 32 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

PAGE 1-B



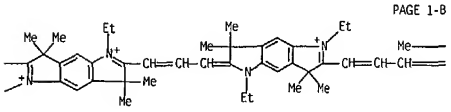
RN 56044-46-3 CAPLUS
CN Benzo[1,2-b:4,5-b']dipyrrolium, 2,6-bis[3-[2-[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-1,5-diethyl-5,7-dihydro-3,3,7,7-tetramethylbenzo[1,2-b:4,5-b']dipyrrolium-6(3H)-ylidene]-1-propenyl]-1,5-diethyl-3,7-dihydro-3,3,7,7-tetramethyl-, tetrabromide (9CI) (CA INDEX NAME)

PAGE 1-A



● 4 Br⁻

PAGE 1-B



L7 ANSWER 32 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

CRN 14797-73-0
CMF Cl O4

L7 ANSWER 32 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

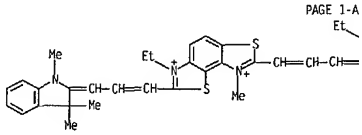
PAGE 1-C

RN 56044-64-5 CAPLUS
CN Benzo[1,2-d:3,4-d']bisthiazolium, 2-[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-7-[3-[7-[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3-ethyl-8-methylbenzo[1,2-d:3,4-d']bisthiazolium-2(3H)-ylidene]-1-propenyl]-3-ethyl-8-methyl-, triperchlorate (9CI) (CA INDEX NAME)

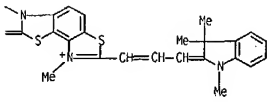
CM 1

CRN 56044-63-4
CMF C53 H55 N6 S4

PAGE 1-A



PAGE 1-B

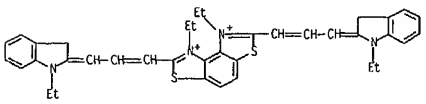


CM 2

L7 ANSWER 33 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1975:487628 CAPLUS
DOCUMENT NUMBER: 83:87628
TITLE: Effect of the structure of polymethine dye molecules and excitation conditions on resonance spectra of spontaneous Raman effect
AUTHOR(S): Tsenter, M. Ya.; Bobovich, Ya. S.; Belyaevskaya, N. M.
CORPORATE SOURCE: USSR
SOURCE: Optika i Spektroskopiya (1975), 38(1), 71-8
CODEN: OPSPAM; ISSN: 0030-4034
DOCUMENT TYPE: Journal
LANGUAGE: Russian
ABSTRACT:
From a study of the title spectra of 9 different polymethine dyes, excited at 4880 and 6328 .ANG., resp. it was observed that the distribution of the intensity depended mainly on which region of the electronic absorption of the mols. the excitation occurred. The properties of resonance spectra of the spontaneous Raman effect were compared with the theoretical results, which presumed mixed different electronic states.

IT 56289-58-8
RL: PRP (Properties)
(Raman spectrum of, excitation conditions effect on resonance and spontaneous)
RN 56289-58-8 CAPLUS
CN Benzo[2,1-d:3,4-d']bisthiazolium, 1,8-diethyl-2,7-bis[3-(1-ethyl-1,3-dihydro-2H-indol-2-ylidene)-1-propenyl]-, dibromide (9CI) (CA INDEX NAME)



● 2 Br⁻

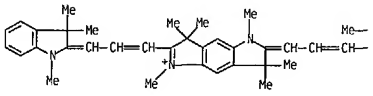
L7 ANSWER 34 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1975:450191 CAPLUS
DOCUMENT NUMBER: 83:50191
TITLE: Spontaneous resonance and induced Raman scattering in polymethine dyes
AUTHOR(S): Bobovich, Ya. S.; Bortkevich, A. V.; Tsenter, M. Ya.
CORPORATE SOURCE: USSR
SOURCE: Optika i Spektroskopiya (1975), 38(3), 541-9
CODEN: OPSPAM; ISSN: 0030-4034
DOCUMENT TYPE: Journal
LANGUAGE: Russian
ABSTRACT:
A comparison of the spontaneous resonance spectra of solns. (EtOH, glycerin, Me2SO, and DMF) at 300 and 77.degree.K and the induced Raman spectra in KBr tablets at 77.degree.K of 5 polymethine dyes is given. No correspondence of both types of spectra, according to the no. of lines and frequency was found. A qual. interpretation on the basis of a phys. model is given. The nature of the obsd. absorption lines and the abnormal width and band shape of several emission lines is discussed.

IT 33279-11-7
RL: PRP (Properties)
(spontaneous resonance and induced Raman scattering by solns. of)
RN 33279-11-7 CAPLUS
CN Benzo[1,2-b:4,5-b']dipyrrolium, 2-[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-6-[3-[6-[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,7-dihydro-1,3,3,5,7,7-hexamethylbenzo[1,2-b:4,5-b']dipyrrolium-2(1H)-ylidene]-1-propenyl]-3,7-dihydro-1,3,3,5,7,7-hexamethyl-, tris(methyl sulfate) (9CI) (CA INDEX NAME)

CM 1

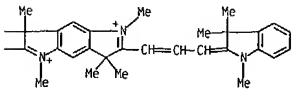
CRN 41011-59-0
CMF C63 H75 N6

PAGE 1-A



L7 ANSWER 34 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

PAGE 1-B



CM 2

CRN 21228-90-0
CMF C H3 O4 S

Me—O—SO3-

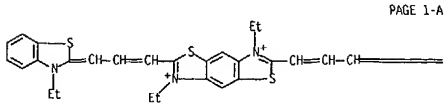
L7 ANSWER 35 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1975:157806 CAPLUS
DOCUMENT NUMBER: 82:157806
TITLE: Interaction of biscyanine chromophores from thiazolo[5,4-d]thiazole
AUTHOR(S): Mikhailenko, F. A.; Ishchenko, I. I.
CORPORATE SOURCE: Inst. Org. Khim., Kiev, USSR
SOURCE: Ukrainskii Khimicheskii Zhurnal (Russian Edition) (1974), 40(12), 1331-3
CODEN: UKZHAU; ISSN: 0041-6045
DOCUMENT TYPE: Journal
LANGUAGE: Russian
GRAPHIC IMAGE: For diagram(s), see printed CA Issue.
ABSTRACT:
Thiazolothiazole biscyanine I [54906-92-2] absorbs at longer wavelength [.lambda.max (MeNO2) 729 nm] than the analogous benzobisthiazole biscyanine II [54998-68-4] (650 nm), whereas the monocyanine III [54939-09-2] absorbs in the same region (578 nm) as its benzobisthiazole analog. 3,6-Diethyl-2,5-dimethylthiazolo[5,4-d]thiazolium bis(tetrafluoroborate) [54906-90-0], the key intermidate in synthesis of I, was prepd. by condensation of isopropylidene malonate [2033-24-1] with 3-ethyl-5-methyl-2-(methylthio)thiazolo[5,4-d]thiazolium Me sulfate [54939-07-0], followed by hydrolysis, decarboxylation, and quaternization.

IT 54998-68-4P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 54998-68-4 CAPLUS
CN Benzo[1,2-d:4,5-d']bisthiazolium, 3,7-diethyl-2,6-bis[3-(3-ethyl-2(3H)-benzothiazolylidene)-1-propenyl]-, salt with 4-methylbenzenesulfonic acid (1:2) (9CI) (CA INDEX NAME)

CM 1

CRN 54998-67-3
CMF C36 H36 N4 S4

PAGE 1-A



L7 ANSWER 35 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

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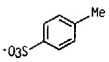
CM 2

CRN 16722-51-3
CMF C7 H7 O3 S



L7 ANSWER 36 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1975:126597 CAPLUS
DOCUMENT NUMBER: 82:126597
TITLE: Effect of the structure of terminal heterocycles on the absorption spectra of biscyanine dyes
AUTHOR(S): Mikhailenko, F. A.; Fridman, S. G.; Dyadyusha, G. G.; Moskaleva, R. N.
CORPORATE SOURCE: Inst. Org. Khim., Kiev, USSR
SOURCE: Zhurnal Organicheskoi Khimii (1974), 10(11), 2442-6
CODEN: ZORKAE; ISSN: 0514-7492
DOCUMENT TYPE: Journal
LANGUAGE: Russian
GRAPHIC IMAGE: For diagram(s), see printed CA Issue.
ABSTRACT:
In a series of biscarbocyanine derivs. (I, R = substituted naphthothiazolinylidene, naphthoxazolinylidene, benzobisthiazolinylidene, or thiazolinylidene) of benzo[1,2-d:4,3-d']bisthiazole, the occurrence of auxochromic groups on the inner side of the angle between the chromophores (in the all-trans configuration) increases the relative intensity of the absorption at shorter wavelength. In I (R = 3-ethyl-2-benzothiazolinylidene) the 2 absorptions are of approx. equal intensity, indicating an angle between chromophores of .apprx.90.degree.. I were prepd. by reaction of 2,7-bis(anilinovinyl)-3,6-diethylbenzo[1,2-d:4,3-d']bisthiazolium bis(p-toluenesulfonate) [54581-47-4] with the appropriate quaternary compds. in refluxing Ac2O contg. pyridine and Et3N.

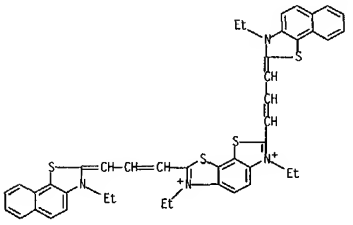
IT **54581-36-1P 54581-37-2P 54581-38-3P**
54581-39-4P 54581-41-8P 54581-43-0P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and spectral properties of)

RN 54581-36-1 CAPLUS
CN Benzo[1,2-d:4,3-d']bisthiazolium, 3,6-diethyl-2,7-bis[3-(1-ethylnaphtho[1,2-d]thiazol-2(1H)-ylidene)-1-propenyl]-, salt with 4-methylbenzenesulfonic acid (1:2) (9CI) (CA INDEX NAME)

CM 1

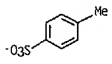
CRN 54581-35-0
CMF C44 H40 N4 S4

L7 ANSWER 36 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)



CM 2

CRN 16722-51-3
CMF C7 H7 O3 S



RN 54581-37-2 CAPLUS
CN Benzo[1,2-d:4,3-d']bisthiazolium, 3,6-diethyl-2,7-bis[3-(3-ethylnaphtho[2,1-d]thiazol-2(3H)-ylidene)-1-propenyl]-, diiodide (9CI) (CA INDEX NAME)

L7 ANSWER 36 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

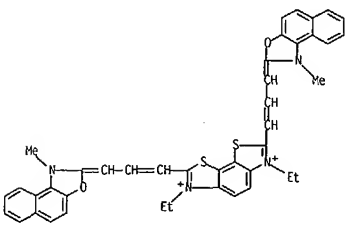
PAGE 1-A

PAGE 2-A

●2 I-

RN 54581-38-3 CAPLUS
CN Benzo[1,2-d:4,3-d']bisthiazolium, 3,6-diethyl-2,7-bis[3-(1-methylnaphth[1,2-d]oxazol-2(1H)-ylidene)-1-propenyl]-, diiodide (9CI) (CA INDEX NAME)

PAGE 1-A



L7 ANSWER 36 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

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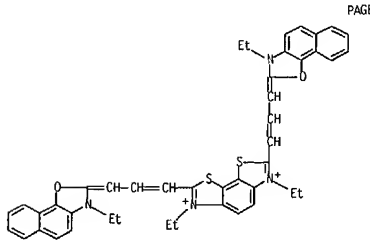
●2 I-

RN 54581-39-4 CAPLUS
CN Benzo[1.2-d:4.3-d']bisthiazolium, 3,6-diethyl-2,7-bis[3-(3-ethylnaphth[2,1-d]oxazol-2(3H)-ylidene)-1-propenyl]-, diiodide (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A

●2 I-

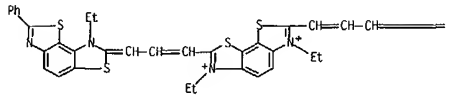
RN 54581-41-8 CAPLUS
CN Benzo[1,2-d:4,3-d']bisthiazolium, 3,6-diethyl-2,7-bis[3-(8-ethyl-2-phenylbenzo[1,2-d:3,4-d']bisthiazol-7(8H)-ylidene)-1-propenyl]-, salt with 4-methylbenzenesulfonic acid (1:2) (9CI) (CA INDEX NAME)

CM 1

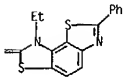
CRN 54581-40-7
CMF C50 H42 N6 S6

L7 ANSWER 36 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

PAGE 1-A

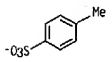


PAGE 1-B



CM 2

CRN 16722-51-3
CMF C7 H7 O3 S



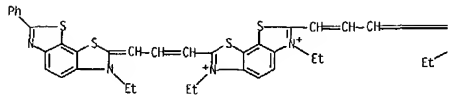
RN 54581-43-0 CAPLUS
CN Benzo[1,2-d:4,3-d']bisthiazolium, 3,6-diethyl-2,7-bis[3-(3-ethyl-7-phenylbenzo[1,2-d:4,3-d']bisthiazol-2(3H)-ylidene)-1-propenyl]-, diperchlorate (9CI) (CA INDEX NAME)

CM 1

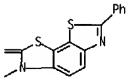
CRN 54581-42-9
CMF C50 H42 N6 S6

L7 ANSWER 36 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

PAGE 1-A



PAGE 1-B



CM 2

CRN 14797-73-0
CMF Cl O4

L7 ANSWER 37 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1975:126584 CAPLUS
DOCUMENT NUMBER: 82:126584
TITLE: Effect of the electron symmetry of chromophores on their interaction in biscyanine dyes
AUTHOR(S): Mikhailenko, F. A.; Fridman, S. G.; Dyadyusha, G. G.; Savina, T. I.
CORPORATE SOURCE: Inst. Org. Khim., Kiev, USSR
SOURCE: Zhurnal Organicheskoi Khimii (1974), 10(11), 2446-9
CODEN: ZORKAE; ISSN: 0514-7492
DOCUMENT TYPE: Journal
LANGUAGE: Russian
GRAPHIC IMAGE: For diagram(s), see printed CA issue.

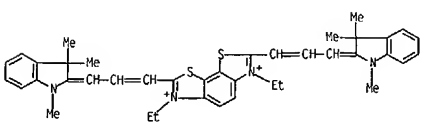
ABSTRACT:
In a series of 10 sym biscyanine derivs. of benzo[1,2-d:4,3-d']bisthiazole, the interaction between the chromophores (splitting of the long-wavelength absorption into 2 peaks) was greatest for compds. such as I [38309-13-6], in which the central and terminal nuclei had similar basicity. If the terminal nuclei were more (as in II [54642-15-8]) or less basic than the central nucleus, the interaction was diminished. Localization of the pos. charge or unshared electron pair in the central nucleus in both the ground and excited state led to decreased interaction.

IT 38133-72-1 38309-13-6 54673-56-2
RL: PRP (Properties)
(chromophore interaction in)

RN 38133-72-1 CAPLUS
CN Benzo[1,2-d:4,3-d']bisthiazolium, 2,7-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,6-diethyl-, diperchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 47862-94-2
CMF C40 H44 N4 S2

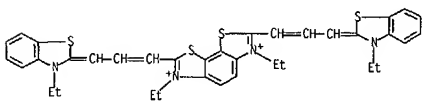


CM 2

CRN 14797-73-0
CMF Cl O4

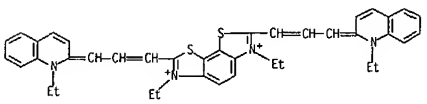
L7 ANSWER 37 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

RN 38309-13-6 CAPLUS
CN Benzo[1,2-d:4,3-d']bisthiazolium, 3,6-diethyl-2,7-bis[3-(3-ethyl-2(3H)-benzothiazolylidene)-1-propenyl]-, dibromide (9CI) (CA INDEX NAME)



●2 Br-

RN 54673-56-2 CAPLUS
CN Benzo[1,2-d:4,3-d']bisthiazolium, 3,6-diethyl-2,7-bis[3-(1-ethyl-2(1H)-quinolinylidene)-1-propenyl]-, diiodide (9CI) (CA INDEX NAME)



●2 I-

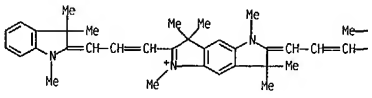
L7 ANSWER 38 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1975:49587 CAPLUS
DOCUMENT NUMBER: 82:49587
TITLE: Effect of a high resonance radiation field on degenerated vibrations in polyatomic molecules
AUTHOR(S): Bobovich, Ya. S.; Bortekevich, A. V.; Tsenter, M. Ya.
CORPORATE SOURCE: Gos. Opt. Inst. im. Vavilova, Leningrad, USSR
SOURCE: Pis'ma v Zhurnal Eksperimental'noi i Teoreticheskoi Fiziki (1974), 20(2), 111-15
CODEN: PZETAB; ISSN: 0370-274X
DOCUMENT TYPE: Journal
LANGUAGE: Russian
GRAPHIC IMAGE: For diagram(s), see printed CA Issue.
ABSTRACT:
The laser-stimulated and spontaneous Raman spectra were simultaneously studied in the tricyanine: 1 and some related polymethine dyes at 77.degree.K. Addnl. lines were found in the laser-stimulated spectra in the low frequency range. These lines are supposed to arise from the removal of the local degeneracy by the high field.

IT 33279-11-7
RL: PRP (Properties)
(Raman spectra of)
RN 33279-11-7 CAPLUS
CN Benzo[1,2-b:4,5-b']dipyrrolium, 2-[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-6-[3-[6-[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,7-dihydro-1,3,3,5,7,7-hexamethylbenzo[1,2-b:4,5-b']dipyrrolium-2(1H)-ylidene]-1-propenyl]-3,7-dihydro-1,3,3,5,7,7-hexamethyl-, tris(methyl sulfate) (9CI) (CA INDEX NAME)

CM 1

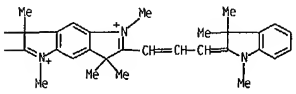
CRN 41011-59-0
CMF C63 H75 N6

PAGE 1-A



L7 ANSWER 38 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

PAGE 1-B



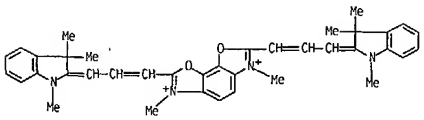
CM 2

CRN 21228-90-0
CMF C H3 O4 S

Me—O—SO3-

L7 ANSWER 39 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1975:45006 CAPLUS
DOCUMENT NUMBER: 82:45006
TITLE: Bis(carbocyanines) from angular dimethylbenzobisoxazoles
AUTHOR(S): Mikhailenko, F. A.; Boguslavskaya, A. N.; Geiko, V. V.
CORPORATE SOURCE: Inst. Org. Khim., Kiev, USSR
SOURCE: Ukrainskii Khimicheskii Zhurnal (Russian Edition) (1974), 40(9), 997-9
CODEN: UKZHAU; ISSN: 0041-6045
DOCUMENT TYPE: Journal
LANGUAGE: Russian
GRAPHIC IMAGE: For diagram(s), see printed CA Issue.
ABSTRACT:
The visible spectrum of benzobisoxazole dicarbocyanine I [53816-96-9] showed a more intense peak at shorter wavelength and a less intense peak at longer wavelength, from the ratio of which the angle between the chromophores of I was calcd. as 65.degree.. The calcd. angle for II [53816-98-1] was 120.degree., in agreement with the expected 120.degree.. I was prepd. by redn. (Sn-HCl) of 3,6-dinitropyrocatechol [53816-91-4] to the diamine tetraacetate, cyclization quaternization, and condensation with 2-(formylmethylene)-1,3,3-trimethylindoline (III) [84-83-3]. II was prepd. by reaction of III with quaternized 2,7-dimethylbenzo[1,2-d:3,4-d']bisoxazole [53816-93-6].

IT 53816-96-9P 53816-98-1P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and electronic spectra of)
RN 53816-96-9 CAPLUS
CN Benzo[1,2-d:4,3-d']bisoxazolium, 2,7-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,6-dimethyl-, diiodide (9CI) (CA INDEX NAME)

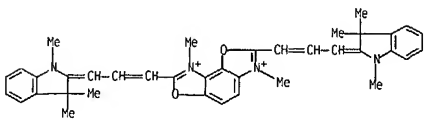


●2 I-

RN 53816-98-1 CAPLUS
CN Benzo[1,2-d:3,4-d']bisoxazolium, 2,7-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,8-dimethyl-, diperchlorate (9CI) (CA INDEX NAME)

L7 ANSWER 39 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)
CM 1

CRN 53816-97-0
CMF C38 H40 N4 O2



CM 2

CRN 14797-73-0
CMF Cl O4

L7 ANSWER 40 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1974:493013 CAPLUS
DOCUMENT NUMBER: 81:93013
TITLE: Vinylene homologs of biscarbocyanines with conjugated chromophores
AUTHOR(S): Mikhailenko, F. A.; Mushkalo, I. L.; Boguslavskaya, A. N.
CORPORATE SOURCE: Inst. Org. Khim., Kiev, USSR
SOURCE: Ukrainskii Khimicheskii Zhurnal (Russian Edition) (1974), 40(3), 253-8
CODEN: UKZHAU; ISSN: 0041-6045
DOCUMENT TYPE: Journal
LANGUAGE: Russian
ABSTRACT:

For bis(carbocyanine) homologs of structure I (Z = Z1 or Z2), the single .lambda.max shifted to longer wavelength by .sim. 130 nm for each addnl. vinylene group (n = 0-3). For I (Z = Z4) the .lambda.max at longer wavelength shifted by .sim.130 nm for each vinylene group, but the .lambda.max at shorter wavelength shifted by .sim.90 nm per vinylene group. For I (Z = Z3) the shifts were 116-19 and 84-9 nm, resp. I (Z = Z1, n = 0-2) were prepd. from 3,7-diethyl-2,6-dimethylbenzo[1,2-d:4,5-d']bisthiazolium bis(p-toluenesulfonate) (II) [52029-82-0] and the appropriate indole derivs: methylated 3,3-dimethyl-2-(methylthio)indolenine [19369-75-6], 2-(formylmethylene)-1,3,3-trimethylindoline [84-83-3], and 2-(4-acetanilidobutadienyl)-1,3,3-trimethylindolium perchlorate [40300-62-7]. I (Z = Z1, n = 3) [52029-68-2] was prepd. by condensing II with glutaconic dialdehyde anil anilide p-toluenesulfonate [52029-83-1] in refluxing 1:2 AcOH-Ac2O contg. a catalytic amt. of pyridine, followed by treatment of the product with 1,3,3-trimethyl-2-methyleneindoline [118-12-7]. I (Z = Z2, n = 2,3) were prepd. similarly from 1,2,3,3,5,6,7,7-octamethyl-3H,7H-benzo[1,2-b:4,5-b']dipyrrolium bis(Me sulfate) [52029-84-2]. I (Z = Z3 or Z4) were prepd. in an analogous manner.

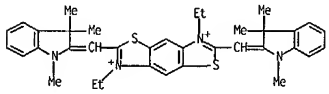
IT **31038-49-0P 52029-66-0P 52029-68-2P**
52029-70-6P 52029-72-8P 52029-73-9P
52029-75-1P 52029-77-3P 52029-79-5P
52029-80-8P 52109-32-7P 52109-34-9P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

RN 31038-49-0 CAPLUS
CN Benzo[1,2-b:5,4-b']dipyrrolium, 2,6-bis[5-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1,3-pentadienyl]-1,3,3,5,5,7-hexamethyl-, diperchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 47884-11-7
CMF C48 H56 N4

L7 ANSWER 40 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)



CM 2

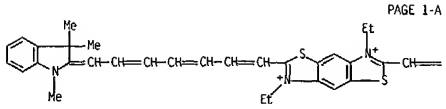
CRN 14797-73-0
CMF Cl O4

RN 52029-68-2 CAPLUS
CN Benzo[1,2-d:4,5-d']bisthiazolium, 2,6-bis[7-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1,3,5-heptatrienyl]-3,7-diethyl-, salt with 4-methylbenzenesulfonic acid (1:2) (9CI) (CA INDEX NAME)

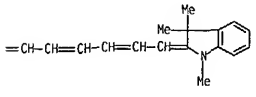
CM 1

CRN 52029-67-1
CMF C48 H52 N4 S2

PAGE 1-A

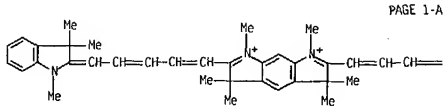


PAGE 1-B

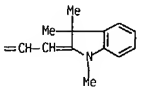


L7 ANSWER 40 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

PAGE 1-A



PAGE 1-B



CM 2

CRN 14797-73-0
CMF Cl O4

RN 52029-66-0 CAPLUS
CN Benzo[1,2-d:4,5-d']bisthiazolium, 2,6-bis[(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)methyl]-3,4-diethyl-, diperchlorate (9CI) (CA INDEX NAME)

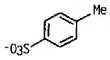
CM 1

CRN 52029-65-9
CMF C36 H40 N4 S2

L7 ANSWER 40 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

CM 2

CRN 16722-51-3
CMF C7 H7 O3 S

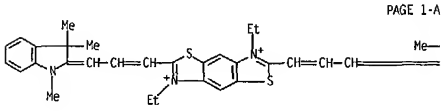


RN 52029-70-6 CAPLUS
CN Benzo[1,2-d:4,5-d']bisthiazolium, 2,6-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,7-diethyl-, salt with 4-methylbenzenesulfonic acid (1:2) (9CI) (CA INDEX NAME)

CM 1

CRN 52029-69-3
CMF C40 H44 N4 S2

PAGE 1-A

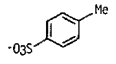


PAGE 1-B

CM 2

CRN 16722-51-3
CMF C7 H7 O3 S

L7 ANSWER 40 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

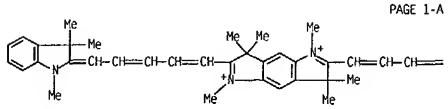


RN 52029-72-8 CAPLUS
CN Benzo[1,2-b:4,5-b']dipyrrolium, 2,6-bis[5-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1,3-pentadienyl]-3,7-dihydro-1,3,3,5,7,7-hexamethyl-, diperchlorate (9CI) (CA INDEX NAME)

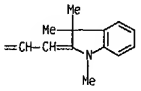
CM 1

CRN 52029-71-7
CMF C48 H56 N4

PAGE 1-A



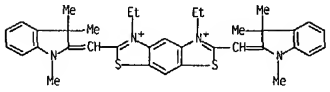
PAGE 1-B



CM 2

CRN 14797-73-0
CMF Cl O4

L7 ANSWER 40 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)



CM 2

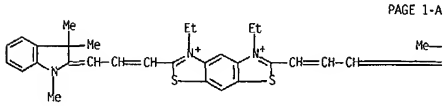
CRN 14797-73-0
CMF Cl O4

RN 52029-77-3 CAPLUS
CN Benzo[1,2-d:5,4-d']bisthiazolium, 2,6-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,5-diethyl-, diperchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 52029-76-2
CMF C40 H44 N4 S2

PAGE 1-A



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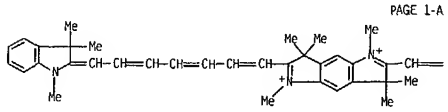
L7 ANSWER 40 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

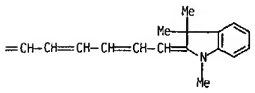
RN 52029-73-9 CAPLUS
CN Benzo[1,2-b:4,5-b']dipyrrolium, 2,6-bis[7-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1,3,5-heptatrienyl]-3,7-dihydro-1,3,3,5,7,7-hexamethyl-, dibromide (9CI) (CA INDEX NAME)

PAGE 1-A



●2 Br⁻

PAGE 1-B



RN 52029-75-1 CAPLUS
CN Benzo[1,2-d:5,4-d']bisthiazolium, 2,6-bis[(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)methyl]-3,5-diethyl-, diperchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 52029-74-0
CMF C36 H40 N4 S2

L7 ANSWER 40 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

CM 2

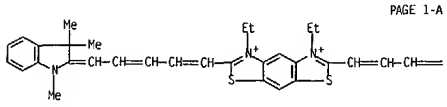
CRN 14797-73-0
CMF Cl O4

RN 52029-79-5 CAPLUS
CN Benzo[1,2-d:5,4-d']bisthiazolium, 2,6-bis[5-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1,3-pentadienyl]-3,5-diethyl-, diperchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 52029-78-4
CMF C44 H48 N4 S2

PAGE 1-A



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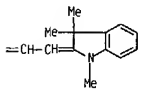

CM 2

CRN 14797-73-0
CMF Cl O4

L7 ANSWER 40 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

RN 52029-80-8 CAPLUS
CN Benzo[1,2-d:5,4-d']bisthiazolium, 2,6-bis[7-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1,3,5-heptatrienyl-3,5-diethyl-, dichloride (9CI) (CA INDEX NAME)

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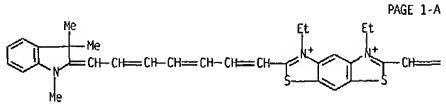
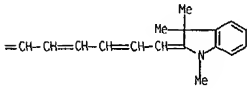


●2 Cl-

PAGE 1-B



RN 52109-32-7 CAPLUS
CN Benzo[1,2-d:4,5-d']bisthiazolium, 2,6-bis[5-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1,3-pentadienyl]-3,7-diethyl-, dibromide (9CI) (CA INDEX NAME)

L7 ANSWER 40 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

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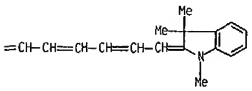

CM 2

CRN 14797-73-0
CMF Cl O4

L7 ANSWER 40 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

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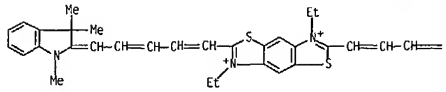
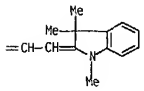


●2 Br-

PAGE 1-B



RN 52109-34-9 CAPLUS
CN Benzo[1,2-b:5,4-b']dipyrrolium, 2,6-bis[7-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1,3,5-heptatrienyl]-3,5-dihydro-1,3,3,5,5,7-hexamethyl-, diperchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 52109-33-8
CMF C52 H60 N4

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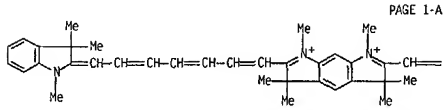


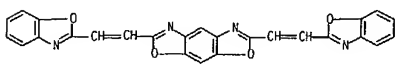
L7 ANSWER 41 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1974:438781 CAPLUS
DOCUMENT NUMBER: 81:38781
TITLE: Treating organic material with superior fluorescent whitening agent
INVENTOR(S): Yoshida, Zenichi; Miyahara, Sadayasu; Takagi, Masaru
PATENT ASSIGNEE(S): Shinroihi Co., Ltd.
SOURCE: Jpn. Tokkyo Koho, 5 pp.
CODEN: JAXKAD
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 48037067	B4	19731108	JP 1970-22381	19700317
PRIORITY APPLN. INFO.:			JP 1970-22381	19700317

ABSTRACT:
The bis(benzoxazolylvinyl)benzobisoxazoles (I), R = Me, H, Cl, MeO, tert-butyl) were used as fluorescent brighteners for cotton and synthetic fibers, i.e. polyamide, polyester, acetate, and rayon fibers, or as fluorescent pigments in lithographic or gravure printing ink. The brighteners used included 2,6-bis(2-(2-benzoxazolyl)vinyl)benzo[1,2-d:5,4-d']bisoxazole (I,R = H) [***51750-60-8***].

IT 51750-60-8
RL: USES (Uses)
(fluorescent brighteners, for printing inks and textiles)
RN 51750-60-8 CAPLUS
CN Benzo[1,2-d:5,4-d']bisoxazole, 2,6-bis[2-(2-benzoxazolyl)ethenyl]- (9CI) (CA INDEX NAME)



L7 ANSWER 42 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1974:134942 CAPLUS
DOCUMENT NUMBER: 80:134942
TITLE: Fluorescent heterocyclic ethylene compounds
INVENTOR(S): Miyahara, Sadayasu; Takagi, Masaru; Yoshida, Zenichi
PATENT ASSIGNEE(S): Shinroihi Co., Ltd.
SOURCE: Jpn. Tokkyo Koho, 11 pp.
CODEN: JAXXAD
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 48012162	B4	19730418	JP 1970-22383	19700317

PRIORITY APPLN. INFO.: JP 1970-22383 19700317
ABSTRACT:
Fluorescent whiteners (I, R = H, Cl, Me, MeO, Me3C; X = O, S, NH) were prepd. and were used to whiten natural and synthetic materials. Thus, a mixt. of 4,6-diaminoresorcinol and 5,2-Me(HO)C6H3NHCOCH:CHCO2H was heated in polyphosphoric acid at 175-85.deg. for 3 hr to give fluorescent whitener (I, R = Me, X = O) [50602-63-6]. The other I were similarly prepd.

IT 50602-63-6P
RL: IMF (Industrial manufacture); PREP (Preparation)
(prepn. of)
RN 50602-63-6 CAPLUS
CN Benzo[1,2-d:5,4-d']bisoxazole, 2,6-bis[2-(5-methyl-2-benzoxazolyl)ethenyl]- (9CI) (CA INDEX NAME)

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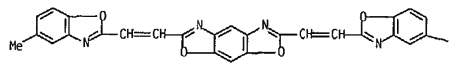


PAGE 1-B

Me

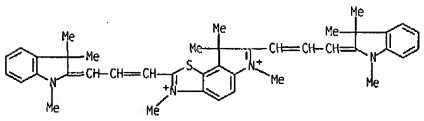
L7 ANSWER 43 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1973:527350 CAPLUS
DOCUMENT NUMBER: 79:127350
TITLE: Cyanine dyes with two conjugated chromophores. XXI. Steric effects in spectra of bis(cyanines) from derivatives of pyrrolobenzothiazole, thiazolobenzothiazine, and thiazolobenzothiazepine
AUTHOR(S): Kiprianov, A. I.; Fridman, S. G.; Mikhailenko, F. A.
CORPORATE SOURCE: Inst. Org. Khim., Kiev, USSR
SOURCE: Zhurnal Organicheskoi Khimii (1973), 9(6), 1253-7
CODEN: ZORKAE; ISSN: 0514-7492
DOCUMENT TYPE: Journal
LANGUAGE: Russian
ABSTRACT:
The ratio of the molar absorptivity of the peak at longer wavelength to that of the peak at shorter wavelength increased with increasing angle between the chromophores in the series (compd., angle, and ratio given): pyrrolobenzothiazole biscyanine I(X = CMe2) [42228-43-3], 93.deg., 0.88; benzobisthiazole biscyanine I(X = S) [19695-75-1], 95.deg., 0.96; thiazolobenzothiazine biscyanine II [42222-45-7], 112.deg., 1.74; thiazolobenzothiazepine biscyanine III [42222-46-8], 114.deg., 1.95. The thiazolobenzothiazine was prepd. by condensation of 2-methyl-6-(methylamino)benzothiazole-7-thiol [42222-47-9] with MeCHClCOMe. The thiazolobenzothiazepine deriv. was prepd. by reaction of 6-amino-2-methylbenzothiazole-7-thiol [42222-48-0] with mesityl oxide [141-79-7]. I-III were prepd. by condensation of 1,3,3-trimethyl-2-(formylmethylene)indoline [84-83-3] with the corresponding bisquaternary salts, the 3 unsym. of which were synthesized. The pyrrolobenzothiazole deriv. was prepd. by condensation of 2-methyl-6-hydrazinobenzothiazole [42222-49-1] with iso-PrCOMe and cyclization.

IT 42228-43-3P
RL: SPN (Synthetic preparation); PREP (Preparation)
. (prepn. of)
RN 42228-43-3 CAPLUS
CN 8H-Pyrrolo[2,3-g]benzothiazolium, 2,7-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,6,8,8-tetramethyl-, diperchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 48240-89-7
CMF C41 H46 N4 S

L7 ANSWER 43 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

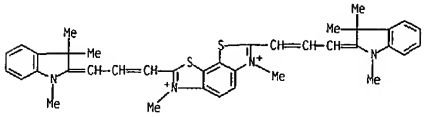


CM 2

CRN 14797-73-0
CMF Cl O4

L7 ANSWER 44 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1973:525374 CAPLUS
DOCUMENT NUMBER: 79:125374
TITLE: Phenomenon of electron-vibrational interaction in intramolecular dimers in the case of a strong bond
AUTHOR(S): Ivanov, A. A.; Puretskii, A. A.; Permogorov, V. I.
CORPORATE SOURCE: USSR
SOURCE: Optika i Spektroskopiya (1973), 35(3), 453-61
CODEN: OPSPAM; ISSN: 0030-4034
DOCUMENT TYPE: Journal
LANGUAGE: Russian
GRAPHIC IMAGE: For diagram(s), see printed CA Issue.
ABSTRACT:
Absorption and luminescence spectra were given for benzothiazolium and 3H-indolium compds. (e.g., I, II) and their intramol. dimers (e.g., III, IV), and the degree of vibrational borrowing was analyzed. The results agreed with the theory of Fulton and Gouterman (1964).

IT 21834-79-7 21839-56-5 23104-60-1
23792-51-0 37005-92-8 41075-55-2
RL: PRP (Properties)
(absorption and luminescence spectra of, vibrational borrowing in relation to)
RN 21834-79-7 CAPLUS
CN Benzo[1,2-d:4,3-d']bisthiazolium, 2,7-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,6-dimethyl- (9CI) (CA INDEX NAME)



RN 21839-56-5 CAPLUS
CN Benzo[1,2-d:4,5-d']bisthiazolium, 2,6-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,7-dimethyl- (9CI) (CA INDEX NAME)

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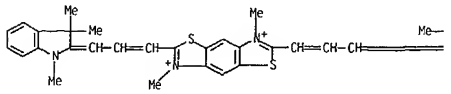

L7 ANSWER 44 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

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RN 23104-60-1 CAPLUS
CN Benzo[1,2-d:5,4-d']bisthiazolium, 2,6-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,5-dimethyl- (9CI) (CA INDEX NAME)

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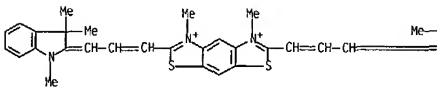

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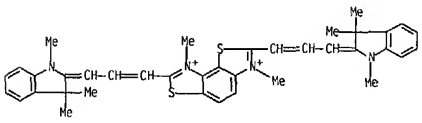
RN 23792-51-0 CAPLUS
CN Benzo[1,2-d:3,4-d']bisthiazolium, 2,7-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,8-dimethyl- (9CI) (CA INDEX NAME)



L7 ANSWER 44 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

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L7 ANSWER 44 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

RN 37005-92-8 CAPLUS
CN Benzo[1,2-b:4,5-b']dipyrrolium, 2,6-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,7-dihydro-1,3,3,5,7,7-hexamethyl- (9CI) (CA INDEX NAME)

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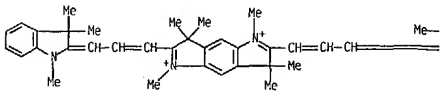

PAGE 1-B

RN 41075-55-2 CAPLUS
CN Benzo[1,2-d:5,4-d']bisoxazolium, 2,6-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,5-dimethyl- (9CI) (CA INDEX NAME)

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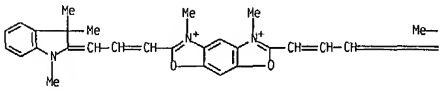


L7 ANSWER 45 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1973:432693 CAPLUS
DOCUMENT NUMBER: 79:32693
TITLE: Induced optical activity of complexes of dyes with deoxyribonucleic acid
AUTHOR(S): Pennogorov, V. I.
CORPORATE SOURCE: USSR
SOURCE: Optika i Spektroskopiya (1973), 34(2), 298-304
CODEN: OPSPAM; ISSN: 0030-4034
DOCUMENT TYPE: Journal
LANGUAGE: Russian
ABSTRACT:
The absorption spectrum of I dye [37005-92-8] in EtOH has only 1 max. corresponding to .sim.16.5 .tim. 10-3 cm-1 frequency. When deoxyribonucleic acid [9007-49-2] (DNA) is added, the absorption acquires a second max. at .sim.20 .tim. 10-3 cm-1. This is caused by the interaction between I and DNA. Similar spectral changes are obsd. when DNA complexes with dye II [***23792-51-0***], dye III [23104-60-1], dye IV [41075-55-2], and dye V [41011-59-0]. An attempt to elucidate the nature of these complexes by the CD method was not successful. The CD of the dyes and of dye-DNA complexes were similar. This is due to the vibronic borrowing (Fulton, T.; Gouterman, M., 1964).

L7 ANSWER 46 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1973:85892 CAPLUS
DOCUMENT NUMBER: 78:85892
TITLE: Polymethine dyes prepared from isomeric benzobithiazoles and containing one or two conjugated chromophores
AUTHOR(S): Meheux, Patrice; Lochon, Pierre; Neel, Jean
CORPORATE SOURCE: Lab. Chim.-Phys. Macromol., Ec. Natl. Super. Ind. Chim., Nancy, Fr.
SOURCE: Comptes Rendus des Seances de l'Academie des Sciences, Serie C: Sciences Chimiques (1972), 275(14), 749-52
CODEN: CHDCAQ; ISSN: 0567-6541
DOCUMENT TYPE: Journal
LANGUAGE: French
ABSTRACT:

Dyes contg. one or two p-Me2C6H4CH:CH or Q (n = 0, 1, 2; Z = H, Cl) groups were prepd. from benzobithiazoles I, II, and III (X = X1 = N, Y = Y1 = Me), and their visible spectra were compared. Thus, I, II, and III (X = X1 = N, Y = Y1 = Me) were treated with Me2SO4 to give the corresponding monoquaternary or bisquaternary compds. which when condensed with p-Me2NC6H4CHO gave dyes with one chromophore (Y = Me, Y1 = CH:CHC6H4NMe2-p, X = N, X1 = N+Me MeSO4-) or two chromophores (Y = Y1 = CH:CH6H4NMe2-p, X = X1 = N+Me MeSO4-). Similar condensation of the mono- and bisquaternary compds. with 2-(methylthio)-, 2-(anilinovinyl)-, or 2-(anilinobutadienyl)benzothiazolines gave dyes with one or two Q groups. A bathochromic shift was obsd. when dyes prepd. from III (X = X1 = N, Y = Y1 = Me) (IV) and contg. one chromophore were compared with those from IV and contg. two chromophores. Dyes prepd. from I and II (X = X1 = N, Y = Y1 = Me) and contg. one chromophore showed only one peak; however, two peaks of unequal intensity appeared when two chromophores were present. The interaction between chromophores depends not only on conjugation in each chromophore but also on their orientation in relation to the plane of the mol.

IT **19375-14-5 19778-42-8 41062-87-7 41062-88-8 41062-89-9 41062-91-3 41062-95-7**
RL: PRP (Properties)
(spectrum of)

RN 19375-14-5 CAPLUS
CN Benzo[1.2-d:5.4-d']bisthiazolium, 2,6-bis[3-(6-chloro-3-methyl-2(3H)-benzothiazolylidene)-1-propenyl]-3.5-dimethyl-, bis(methyl sulfate) (9CI) (CA INDEX NAME)

CM 1

CRN 47834-68-4
CMF C32 H26 Cl2 N4 S4

L7 ANSWER 46 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

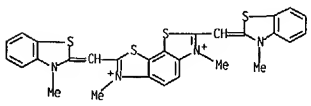
CRN 21228-90-0
CMF C H3 O4 S

Me–O–SO3-

RN 41062-87-7 CAPLUS
CN Benzo[1.2-d:4.3-d']bisthiazolium, 3.6-dimethyl-2.7-bis[(3-methyl-2(3H)-benzothiazolylidene)methyl]-, bis(methyl sulfate) (9CI) (CA INDEX NAME)

CM 1

CRN 48232-80-0
CMF C28 H24 N4 S4



CM 2

CRN 21228-90-0
CMF C H3 O4 S

Me–O–SO3-

RN 41062-88-8 CAPLUS
CN Benzo[1.2-d:4.3-d']bisthiazolium, 2.7-bis[3-(6-chloro-3-methyl-2(3H)-benzothiazolylidene)-1-propenyl]-3.6-dimethyl-, bis(methyl sulfate) (9CI) (CA INDEX NAME)

CM 1

CRN 48238-54-6
CMF C32 H26 Cl2 N4 S4

L7 ANSWER 46 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

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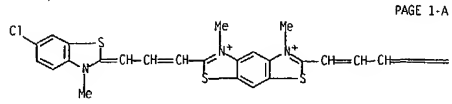

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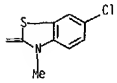


CM 2

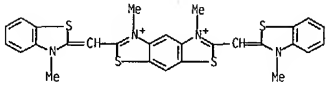
CRN 21228-90-0
CMF C H3 O4 S

Me–O–SO3-

RN 19778-42-8 CAPLUS
CN Benzo[1.2-d:5,4-d']bisthiazolium, 3.5-dimethyl-2.6-bis[(3-methyl-2(3H)-benzothiazolylidene)methyl]-, bis(methyl sulfate) (9CI) (CA INDEX NAME)

CM 1

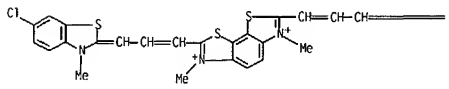
CRN 47777-09-3
CMF C28 H24 N4 S4



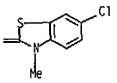
CM 2

L7 ANSWER 46 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

PAGE 1-A



PAGE 1-B



CM 2

CRN 21228-90-0
CMF C H3 O4 S

Me–O–SO3-

RN 41062-89-9 CAPLUS
CN Benzo[1.2-d:4,3-d']bisthiazolium, 3.6-dimethyl-2.7-bis[5-(3-methyl-2(3H)-benzothiazolylidene)-1,3-pentadienyl]-, bis(methyl sulfate) (9CI) (CA INDEX NAME)

CM 1

CRN 48239-87-8
CMF C36 H32 N4 S4

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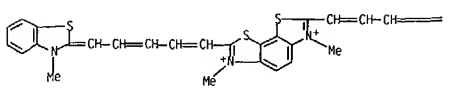
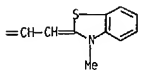


L7 ANSWER 46 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

PAGE 1-B



CM 2

CRN 21228-90-0
CMF C H3 O4 S

Me—O—SO3-

RN 41062-91-3 CAPLUS
CN Benzo[1,2-d:3,4-d']bisthiazolium, 2,7-bis[3-(6-chloro-3-methyl-2(3H)-benzothiazolylidene)-1-propenyl]-3,8-dimethyl-, bis(methyl sulfate) (9CI) (CA INDEX NAME)

CM 1

CRN 48238-52-4
CMF C32 H26 Cl2 N4 S4

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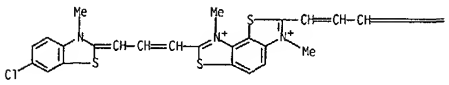
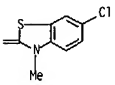


PAGE 1-B



L7 ANSWER 46 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

Me—O—SO3-

L7 ANSWER 46 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

CM 2

CRN 21228-90-0
CMF C H3 O4 S

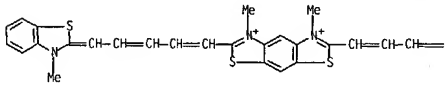
Me—O—SO3-

RN 41062-95-7 CAPLUS
CN Benzo[1,2-d:5,4-d']bisthiazolium, 3,5-dimethyl-2,6-bis[5-(3-methyl-2(3H)-benzothiazolylidene)-1,3-pentadienyl]-, bis(methyl sulfate) (9CI) (CA INDEX NAME)

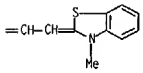
CM 1

CRN 48239-94-7
CMF C36 H32 N4 S4

PAGE 1-A



PAGE 1-B



CM 2

CRN 21228-90-0
CMF C H3 O4 S

L7 ANSWER 47 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN

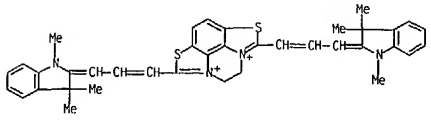
ACCESSION NUMBER: 1973:71978 CAPLUS
DOCUMENT NUMBER: 78:71978
TITLE: 2,7-Dimethylbenzo[1.2-d:6,5-d']bisthiazoles
AUTHOR(S): Mikhailenko, F. A.
CORPORATE SOURCE: USSR
SOURCE: Khim. Geterotsikl. Soedin., Sb. 3 (1971), No. 3, 208-11
From: Ref. Zh., Khim. 1972, Abstr. No. 6Zh507
DOCUMENT TYPE: Journal
LANGUAGE: Russian
GRAPHIC IMAGE: For diagram(s), see printed CA Issue.

ABSTRACT:
5-Chloro-2-methyl-4-nitrobenzothiazole, Na2S.10H2O, and H2O was refluxed 6 hr. and Ac2O added to give 16% 2,7-dimethylbenzo[1.2-d:6,5-d']bisthiazole (I), which with Me2SO4 gave a salt (Ia) isolated as the bromide. I heated with BrCH2CH2Br 6 hr at 160.degree. gave 7,8-dihydro-1,6-dimethylbisthiazolo[3,4,5-de:5',4',3'-ij]quinoxaline dibromide (II). Ia and 1,3,3-trimethyl-2-(formylmethylene)indoline (III) in Ac2O gave IV; II and III in Ac2O gave V (as the perchlorate). 5-Amino-2-methyl-4-nitrobenzothiazole diazotized at 0.degree., then treated with CuCl in HCl gave 67% 4,5-dichloro-2-methylbenzothiazole.

IT 40671-23-6P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 40671-23-6 CAPLUS
CN Bisthiazolo[3,4,5-de:5',4',3'-ij]quinoxalinediium, 2,7-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-4,5-dihydro-, diperchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 48239-80-1
CMF C38 H38 N4 S2



CM 2

CRN 14797-73-0
CMF Cl O4

L7 ANSWER 47 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

L7 ANSWER 48 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1973:45019 CAPLUS
DOCUMENT NUMBER: 78:45019
TITLE: Bisdimethine dyes from isomeric benzobisthiazoles and 2-(dimethylamino)thiophene-, -furan-, and -selenophene-5-carboxaldehydes
AUTHOR(S): Mikhailenko, F. A.; Shevchuk, L. I.; Shulezhko, A. A.
CORPORATE SOURCE: Inst. Org. Khim., Kiev, USSR
SOURCE: Zhurnal Organicheskoi Khimii (1972), 8(9), 1968-73
CODEN: ZORKAE; ISSN: 0514-7492
DOCUMENT TYPE: Journal
LANGUAGE: Russian
ABSTRACT:

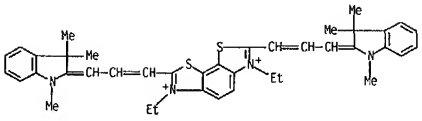
The angles between the chromophores of the title dyes and some related compds. were detd. from their visible absorption spectra. Bis(thiacarbocyanine) I (R = R2, X = Br) (II) [38309-13-6] and bis(carbocyanine) I (R = R3, X = ClO4) (III) [38133-72-1] each have 2 absorption max. of approx. equal extinction, at 514 and 632 nm and at 506 and 621 nm, resp. This indicates an angle between lines connecting the 2 N atoms of each chromophore close to 90.deg.; as the angle widens the absorption at higher wavelength increases and that at lower wavelength decreases; at 180.deg. (parallel chromophores) only the longer wavelength absorption remains. The thiophene deriv. (I, R = R1, Y = S, X = ClO4) (IV) [38133-73-2], the selenophene deriv. (I, R = R1, Y = Se, X = p-MeC6H4SO3) (V) [38133-74-3], and the furan deriv. (I, R = R1, Y = O, X = ClO4) (VI) [38133-75-4] have similar spectra, the peak at 637-42 nm having .epsilon. 2-3 times that of the peak at 520-8 nm, and both peaks being sharper than those of the phenyl analog (1, R = R1, Y = CH:CH, X = p-MeC6H4SO3) (VII) [38133-76-5]. In the bisthiazoloquinoxaline series the angle between the chromophores narrows going from the carbocyanine (VIII, R = R3) to the dimethine (VIII, R = R1, Y = S, X = Br) (IX) [38133-77-6]. For the benzo[1,2-d:3,4-d']bisthiazole isomer system (X) the angle was .sim.120.deg. for all R. II-VII were prepd. from 2,7-dimethyl-3,6-diethylbenzo[1,2-d:4,3-d']bisthiazolium bis(p-toluenesulfonate) [38133-78-7] by std. reactions. IX and the diperchlorate X (R = R1, Y = S, X = ClO4) [38133-79-8] were prepd. similarly.

IT **38133-72-1P 38309-13-6P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 38133-72-1 CAPLUS
CN Benzo[1,2-d:4,3-d']bisthiazolium, 2,7-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,6-diethyl-, diperchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 47862-94-2
CMF C40 H44 N4 S2

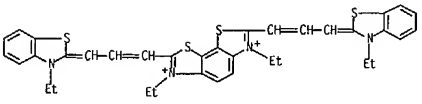
L7 ANSWER 48 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)



CM 2

CRN 14797-73-0
CMF Cl O4

RN 38309-13-6 CAPLUS
CN Benzo[1,2-d:4,3-d']bisthiazolium, 3,6-diethyl-2,7-bis[3-(3-ethyl-2(3H)-benzothiazolylidene)-1-propenyl]-, dibromide (9CI) (CA INDEX NAME)



●2 Br-

L7 ANSWER 49 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN

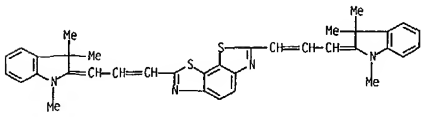
ACCESSION NUMBER: 1972:541467 CAPLUS
DOCUMENT NUMBER: 77:141467
TITLE: Cyanine dyes with two conjugated chromophores. XV. Effect of spatial interference on the absorption spectra of biscarbocyanines prepared from 2,7-dimethylbenzo[1,2-d:4,3-d']bisthiazole
AUTHOR(S): Fridman, S. G.; Kiprianov, A. I.
CORPORATE SOURCE: Inst. Org. Khim., Kiev, USSR
SOURCE: Zhurnal Organicheskoi Khimii (1972), 8(6), 1289-95
CODEN: ZORKAE; ISSN: 0514-7492
DOCUMENT TYPE: Journal
LANGUAGE: Russian
ABSTRACT:

The substituents R-R2 affect the angle between 2 chromophores in I dyes. The uv spectra of 3,6-dimethyl-2,7-bis[3-(1,3,3-trimethyl-2-indolinylidene)propenyl]benzo[1,2-d:4,3-d']bisthiazolium diperchlorate (I, R = R1 = R2 = Me, X = ClO4) [19695-75-1] is shifted towards shorter wave length in respect to I(R = R2 = Me, R1 = H, X = ClO4) (II) and I(R = Me, R1 = R2 = H, X = ClO4) (III), but it is nearly identical with the spectrum of I(R = H, R1 = R2 = Me, X = p-toluenesulfonate) (IV). II and III were prepd. by demethylating I (R = R1 = R2 = Me, X = iodine) with PhNEt2 to 2,7-bis[3-(1,3,3-trimthyl-2-indolinylidene)propenyl]benzo[1,2-d:4,3-d']bisthiazole, which was then treated with p-MeC6H4SO3Me or HClO4, resp. IV was prepd. by reaction of 2,7-bis(2-anilinovinyl)benzo[1,2-d:4,3-d']bisthiazolium di-p-toluenesulfonate with 2,3,3-trimethylindolenine-HCl.

IT **38794-00-2P 38937-01-8P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 38794-00-2 CAPLUS
CN Benzo[1,2-d:4,3-d']bisthiazole, 2,7-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-, diperchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 47832-73-5
CMF C36 H34 N4 S2



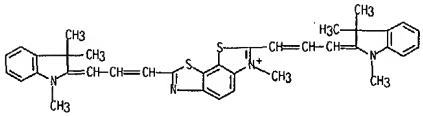
CM 2

L7 ANSWER 49 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)
CRN 7601-90-3
CMF Cl H O4

RN 38937-01-8 CAPLUS
CN Benzo[1,2-d:4,3-d']bisthiazolium, 2,7-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3-methyl-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 47844-86-0
CMF C37 H37 N4 S2

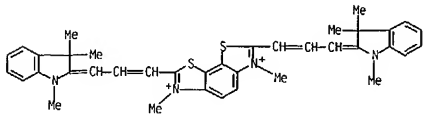


CM 2

CRN 14797-73-0
CMF Cl O4

IT 21834-79-7
RL: PRP (Properties)
(spectrum of)
RN 21834-79-7 CAPLUS

L7 ANSWER 49 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)
CN Benzo[1,2-d:4,3-d']bisthiazolium, 2,7-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,6-dimethyl- (9CI) (CA INDEX NAME)



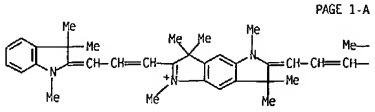
L7 ANSWER 50 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1972:507247 CAPLUS
DOCUMENT NUMBER: 77:107247
TITLE: Resonance stimulated Raman spectra in organic dye solutions
AUTHOR(S): Melishchuk, M. V.; Tikhonov, E. A.; Shpak, M. T.
CORPORATE SOURCE: USSR
SOURCE: Zhurnal Prikladnoi Spektroskopii (1972), 16(4), 642-8
CODEN: ZPSBAX; ISSN: 0514-7506
DOCUMENT TYPE: Journal
LANGUAGE: Russian
ABSTRACT:
The resonance stimulated Raman scattering (obsd. besides the stimulated fluorescence) in solns. of polymethine dyes was studied during the excitation in an absorption band with a Q-modulated ruby laser (max. radiation power 100 MW/cm2) at 293 and 77.degree.K; EtOH, glycerol, Me2CO, Me2SO, and an alc. mixt. were used as solvents. The longwave shift (4 cm-1) of the laser generation frequency was realized by heating the working element. The presence of relatively narrow intense lines and gaps in addn. to broad generation bands is characteristic of the stimulated radiation. The upper compd. states take part in the scattering. The presence of dye generation near the scattered radiation frequency is a necessary condition for the occurrence of scattering; the dye generation intensifies the appropriate Raman lines. The resonance stimulated Raman lines obsd. are caused by the scattering on nonexcited dye mols.

IT 38326-94-2
RL: PRP (Properties)
(Raman spectrum of, resonance stimulated)
RN 38326-94-2 CAPLUS
CN Benzo[1,2-b:4,5-b']dipyrrolium, 2-[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-6-[3-[6-[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,7-dihydro-1,3,3,5,7,7-hexamethylbenzo[1,2-b:4,5-b']dipyrrolium-2(1H)-ylidene]-1-propenyl]-3,7-dihydro-1,3,3,5,7,7-hexamethyl-, triperchlorate (9CI) (CA INDEX NAME)

CM 1

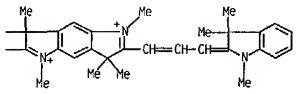
CRN 41011-59-0
CMF C63 H75 N6

PAGE 1-A



L7 ANSWER 50 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

PAGE 1-B



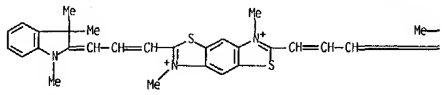
CM 2

CRN 14797-73-0
CMF Cl O4

L7 ANSWER 51 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1972:426892 CAPLUS
DOCUMENT NUMBER: 77:26892
TITLE: Spectral manifestation of electronic-vibrational interaction in the case of strong bonds
AUTHOR(S): Ivanov, A. A.; Puretskii, A. A.; Lukashin, A. V.; Permogorov, V. I.; Frank-Kamenetskii, M. D.
CORPORATE SOURCE: USSR
SOURCE: Optika i Spektroskopiya (1972), 32(3), 481-91
CODEN: OPSPAM; ISSN: 0030-4034
DOCUMENT TYPE: Journal
LANGUAGE: Russian
ABSTRACT:
The effect of dimerization on electronic-vibrational coupling was considered theoretically for the case when the dimerization bond is strong and each monomer has 1 normal vibration coordinate. Cyanide dyes having the above characteristics were examd. exptl. for the 1st time.

IT **21839-56-5 23104-60-1 23792-51-0**
37005-92-8
RL: PRP (Properties)
(electronic spectrum of, dimerization effect on electronic-vibrational interaction in relation to)
RN 21839-56-5 CAPLUS
CN Benzo[1,2-d:4,5-d']bisthiazolium, 2,6-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,7-dimethyl- (9CI) (CA INDEX NAME)

PAGE 1-A

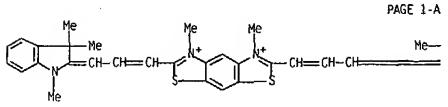


PAGE 1-B

RN 23104-60-1 CAPLUS

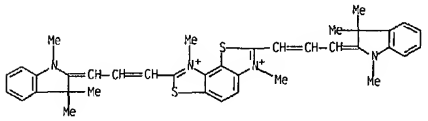
L7 ANSWER 51 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)
CN Benzo[1,2-d:5,4-d']bisthiazolium, 2,6-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,5-dimethyl- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

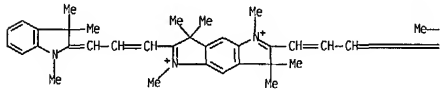
RN 23792-51-0 CAPLUS
CN Benzo[1,2-d:3,4-d']bisthiazolium, 2,7-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,8-dimethyl- (9CI) (CA INDEX NAME)



RN 37005-92-8 CAPLUS
CN Benzo[1,2-b:4,5-b']dipyrrolium, 2,6-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,7-dihydro-1,3,3,5,7,7-hexamethyl- (9CI) (CA INDEX NAME)

L7 ANSWER 51 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

PAGE 1-A



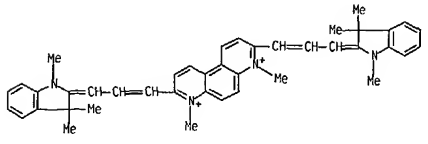
PAGE 1-B

L7 ANSWER 52 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1972:60910 CAPLUS
DOCUMENT NUMBER: 76:60910
TITLE: Biscyanine dyes prepared from p-phenanthroline
AUTHOR(S): Mikhailenko, F. A.; Boguslavskaya, A. N.
CORPORATE SOURCE: Inst. Org. Khim., Kiev, USSR
SOURCE: Ukrainskii Khimicheskii Zhurnal (Russian Edition) (1971), 37(10), 1031-4
CODEN: UKZNAU; ISSN: 0041-6045
DOCUMENT TYPE: Journal
LANGUAGE: Russian
ABSTRACT:
Refluxing 3,4,7,8-tetramethyl-4,7-phenanthrolinium Me sulfate salt with 1,3,3-trimethyl-2-(formylmethylene)indoline in Ac2O and pptn. with NaClO4 gave 3,8-bis(1,3,3-trimethyl-2-indolylidenpropenyl)-4,7-dimethyl-4,7-phenanthrolinium diperchlorate (I) [34087-05-3]. The 3-ethylbenzothiazole and 1-ethylquinoline analogs were prepd. similarly. Similarly, 3-(3-methyl-2-benzothiazolinylidenepropenyl)-4,8-dimethyl-4,7-phenanthrolinium Me sulfate (II) [34087-06-4] was prepd. The uv spectrum of I contains absorption max. at 520 and 639 nm, while there is only 1 absorption max. at 586 nm in the spectrum of II. Similar, double absorption spectra were obsd. in other symmetrically substituted dyes (I analogs) but not in the monosubstituted dyes.

IT **34087-05-3P 35202-11-0P 35519-84-7P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 34087-05-3 CAPLUS
CN 4,7-Phenanthrolinium, 3,8-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-4,7-dimethyl-, diperchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 47862-81-7
CMF C42 H44 N4



CM 2

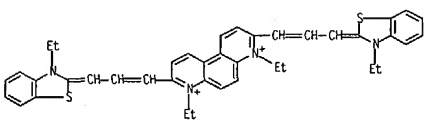
CRN 14797-73-0

L7 ANSWER 52 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)
CMF Cl O4

RN 36202-11-0 CAPLUS
CN 4,7-Phenanthrolinium, 4,7-diethyl-3,8-bis[3-(3-ethyl-2(3H)-benzothiazolylidene)-1-propenyl]-, salt with 4-methylbenzenesulfonic acid (1:2) (9CI) (CA INDEX NAME)

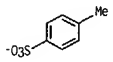
CM 1

CRN 47862-80-6
CMF C40 H40 N4 S2



CM 2

CRN 16722-51-3
CMF C7 H7 O3 S

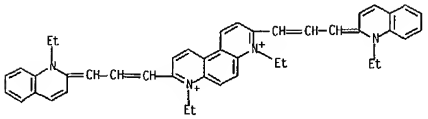


RN 35519-84-7 CAPLUS
CN 4,7-Phenanthrolinium, 4,7-diethyl-3,8-bis[3-(1-ethyl-2(1H)-quinolinylidene)-1-propenyl]-, salt with 4-methylbenzenesulfonic acid (1:2) (9CI) (CA INDEX NAME)

L7 ANSWER 52 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

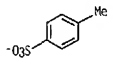
CM 1

CRN 47869-91-0
CMF C44 H44 N4



CM 2

CRN 16722-51-3
CMF C7 H7 O3 S



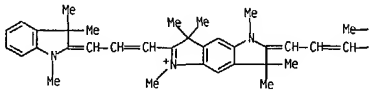
L7 ANSWER 53 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1971:489310 CAPLUS
DOCUMENT NUMBER: 75:89310
TITLE: Synthesis of a dye with three conjugated chromophores
AUTHOR(S): Mikhailenko, F. A.; Boguslavskaya, A. N.
CORPORATE SOURCE: Inst. Org. Khim., Kiev, USSR
SOURCE: Khimiya Geterotsiklicheskikh Soedinenii (1971), 7(1), 137-8
CODEN: KGSSAQ; ISSN: 0132-6244
DOCUMENT TYPE: Journal
LANGUAGE: Russian
GRAPHIC IMAGE: For diagram(s), see printed CA Issue.
ABSTRACT:
Cyanine dye (I) is prepd. in 20% yield by heating 2.46 g diquaternary salt (II) with 1.20 g 1,3,3-trimethyl-2-formylmethyleneindoline in 10 ml AcOH, boiling with 50 ml Ac2O for 10 min, distg. solvent, adding 3.2 g diethoxymethylacetate and 30 ml pyridine, boiling for 3 hr, and working up. I is also obtained by reacting cyanine (III) with sulfonate p-O2NC6H4SO3Me and reacting the triquaternary salt produced with Ac2O.

IT **33279-11-7P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 33279-11-7 CAPLUS
CN Benzo[1,2-b:4,5-b']dipyrrolium, 2-[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-6-[3-[6-[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,7-dihydro-1,3,3,5,7,7-hexamethylbenzo[1,2-b:4,5-b']dipyrrolium-2(1H)-ylidene]-1-propenyl]-3,7-dihydro-1,3,3,5,7,7-hexamethyl-, tris(methyl sulfate) (9CI) (CA INDEX NAME)

CM 1

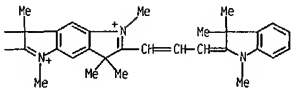
CRN 41011-59-0
CMF C63 H75 N6

PAGE 1-A



L7 ANSWER 53 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

PAGE 1-B



CM 2

CRN 21228-90-0
CMF C H3 O4 S

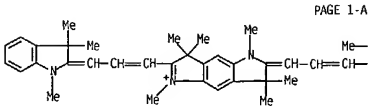
Me—O—SO3-

L7 ANSWER 54 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1971:59012 CAPLUS
DOCUMENT NUMBER: 74:59012
TITLE: Nonlinear light absorption by liquid organic dye solutions
AUTHOR(S): Aslanidi, E. B.; Gandel'man, I. L.; Tikhonov, E. A.; Shpak, M. T.
CORPORATE SOURCE: Inst. Fiz., Kiev, USSR
SOURCE: Ukrainskii Fizicheskii Zhurnal (Russian Edition) (1970), 15(8), 1284-94
CODEN: UFIZAW; ISSN: 0503-1265
DOCUMENT TYPE: Journal
LANGUAGE: Russian
ABSTRACT:
Study of the nonlinear absorption of light by a group of solns. of liq. org. dyes and radicals of various chem. classes revealed a no. of different relations between the absorption coeff. and monochromatic excitation intensity: (a) a decrease decrease of the absorption coeff., (b) increase of the absorption coeff., (c) linear light absorption over a wide range of incident radiation, and (d) a decrease in absorption coeff. with a subsequent increase. The nonuniformities in the absorption bands for several dye samples were measured and probable reasons for the nonuniformities are discussed. Anal. of the obsd. nonlinearities carried out by a rate equation method for the populations of actual energy levels shows that the exptl. obtained relations may be due to the effective participation in the absorption of excited singlet and triplet mol. levels. According to the calcns., a new nonlinear effect, not yet obsd. exptl., is possible in absorption: an increase in absorption, then a decrease followed by another increase in the intensity. This effect is due to the resonance 2-level absorption of 2 photons.

IT **31038-47-8 31038-49-0**
RL: PRP (Properties)
(optical absorption by, mechanism of nonlinear)
RN 31038-47-8 CAPLUS
CN Benzo[1,2-b:4,5-b']dipyrrolium, 2-[[1,3,3,5,7,7-hexamethyl-2-[(1,3,3-trimethyl-2-indolinylidene)propenyl]benzo[1,2-b:4,5-b']dipyrrolium-6(5H)-ylidene]propenyl]-1,3,3,5,7,7-hexamethyl-6-[(1,3,3-trimethyl-2-indolinylidene)propenyl]-, triiodide (8CI) (CA INDEX NAME)

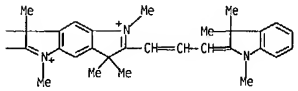
L7 ANSWER 54 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

PAGE 1-A



3 I-

PAGE 1-B

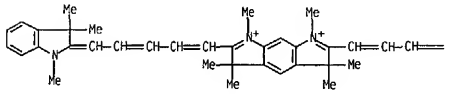


RN 31038-49-0 CAPLUS
CN Benzo[1,2-b:5,4-b']dipyrrolium, 2,6-bis[5-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1,3-pentadienyl]-1,3,3,5,5,7-hexamethyl-, diperchlorate (9CI) (CA INDEX NAME)

CM 1

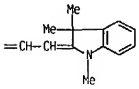
CRN 47884-11-7
CMF C48 H56 N4

PAGE 1-A



L7 ANSWER 54 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

PAGE 1-B



CM 2

CRN 14797-73-0
CMF Cl O4

L7 ANSWER 55 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1970:122953 CAPLUS
DOCUMENT NUMBER: 72:122953
TITLE: Benzo[1,2-d:5,4-d']bisthiazole polymethine derivatives as photographic sensitizers
INVENTOR(S): Lochon, Pierre; Meheux, Patrice; Neel, Jean
PATENT ASSIGNEE(S): Centre National de la Recherche Scientifique
SOURCE: Fr., 6 pp.
CODEN: FRXXAK
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 1545577		19681115	FR	19670317
DE 1670510			DE	

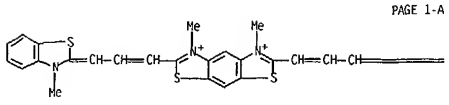
GRAPHIC IMAGE: For diagram(s), see printed CA Issue.
ABSTRACT:
I, II, and compds. of the formula III, where, for example, R = Cl and R1 = R2 = H, are prepd. and can be used as photographic sensitizers. Thus, a mixt. of 945 mg 2,3,5,6-tetramethylbenzo[1,2-d:5,4-d']bisthiazol ium bis(Me sulfate), 716 mg p-Me2NC6H4CHO, and 20 ml EtOH is re fluxed to give 60% I, decompd. >300.degree., .lambda.maxMeOH 535 nm.

IT **19375-13-4P 19375-14-5P 19375-15-6P**
19543-68-1P
RL: IMF (Industrial manufacture); PREP (Preparation)
(prepn. of)
RN 19375-13-4 CAPLUS
CN Benzo[1,2-d:5,4-d']bisthiazolium, 3,5-dimethyl-2,6-bis[3-(3-methyl-2-benzothiazolinylidene)propenyl]-, bis(methyl sulfate) (8CI) (CA INDEX NAME)

CM 1

CRN 21834-78-6
CMF C32 H28 N4 S4

PAGE 1-A



L7 ANSWER 55 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

PAGE 1-B

CM 2

CRN 21228-90-0
CMF C H3 O4 S

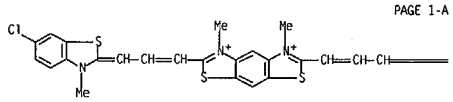
Me—O—SO3-

RN 19375-14-5 CAPLUS
CN Benzo[1.2-d:5.4-d']bisthiazolium, 2.6-bis[3-(6-chloro-3-methyl-2(3H)-benzothiazolylidene)-1-propenyl]-3.5-dimethyl-, bis(methyl sulfate) (9CI) (CA INDEX NAME)

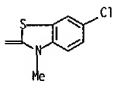
CM 1

CRN 47834-68-4
CMF C32 H26 Cl2 N4 S4

PAGE 1-A



PAGE 1-B



CM 2

CRN 21228-90-0
CMF C H3 O4 S

Me—O—SO3-

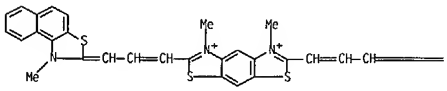
L7 ANSWER 55 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

RN 19543-68-1 CAPLUS
CN Benzo[1.2-d:5.4-d']bisthiazolium, 3,5-dimethyl-2.6-bis[3-(1-methylnaphtho[1.2-d]thiazol-2(1H)-ylidene)-1-propenyl]-, bis(methyl sulfate) (9CI) (CA INDEX NAME)

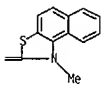
CM 1

CRN 47869-69-2
CMF C40 H32 N4 S4

PAGE 1-A



PAGE 1-B



CM 2

CRN 21228-90-0
CMF C H3 O4 S

Me—O—SO3-

L7 ANSWER 55 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

CM 2

CRN 21228-90-0
CMF C H3 O4 S

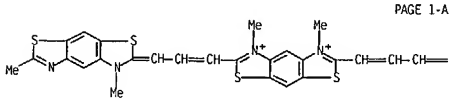
Me—O—SO3-

RN 19375-15-6 CAPLUS
CN Benzo[1.2-d:5.4-d']bisthiazolium, 2,6-bis[3-(3.6-dimethylbenzo[1.2-d:5.4-d']bisthiazol-2(3H)-ylidene)propenyl]-3.5-dimethyl-, bis(methyl sulfate) (8CI) (CA INDEX NAME)

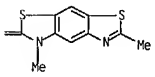
CM 1

CRN 47870-73-5
CMF C36 H30 N6 S6

PAGE 1-A



PAGE 1-B



CM 2

CRN 21228-90-0
CMF C H3 O4 S

Me—O—SO3-

L7 ANSWER 56 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1970:45004 CAPLUS
DOCUMENT NUMBER: 72:45004
TITLE: Cyanine dyes with two conjugated chromophores. X
AUTHOR(S): Mikhailenko, F. A.; Boguslavskaya. A. N.
CORPORATE SOURCE: Inst. Org. Khim., Kiev, USSR
SOURCE: Ukrainskii Khimicheskii Zhurnal (Russian Edition) (1969), 35(9), 943-7
CODEN: UKZHAU; ISSN: 0041-6045
DOCUMENT TYPE: Journal
LANGUAGE: Russian
GRAPHIC IMAGE: For diagram(s), see printed CA Issue.
ABSTRACT:

2.5.1.4-(AcNH)2C6H2(OAc)2 heated at 300.degree. until evolution of HOAc ceased and the residue distd. in vacuum yielded 82% 2.6-dimethylbenzo[1.2-d:4.5-d']bisoxazole (I), m. 191.degree. (C6H6). 2.6-Dimethylbenzo[1.2-d:5.4-d']bisoxazole (II), m. 143.degree., was prepd. from 4.6.1.3-(AcNH)2C6H2(OAc)2. I and II were converted to monoquaternary salts by heating with Me2SO4 in PhNO2 at 120.degree.. Heating to 140.degree. with excess Me2SO4 in xylene gave the bisquaternary salts. From these quaternary salts the following III were prepd. by standard methods [X. Y. Z. R. .lambda.max in nm (.epsilon. .times. 10-5), and m.p. given]: NMe, O, ClO4, Q. 470 (D) and 602 (3.40), >300.degree. (MeOH); NMe, O, MeSO4, 4-Me2NC6H4, 598 (1.85), >300.degree.; O, NMe, ClO4, Q, 468 (1.37) and 592 (2.82), >300.degree. (Me-NO2-HOAc); O, NMe, MeSO4, 4-Me2NC6H4, 482 (0.40) and 588 (2.16), >300.degree.; and IV (same data given): NMe, O, ClO4, Q, 520 (1.23), 269.degree. (MeOH); NMe, O, MeSO4, 4-Me2NC6H4, 512 (0.79), 273.degree. (MeNO2); O, NMe, MeSO4, Q, 520 (1.23), 206.degree. (H2O); O, NMe, ClO4, 4-Me2NC6H4, 506 (0.80), >300.degree. (MeNO2-HOAc). The increased ratio of .epsilon. at the lower .lambda. to .epsilon. at the higher .lambda. for biscyanines based on II is attributed as before to a smaller angle between these chromophores than is present in those dyes related to I.

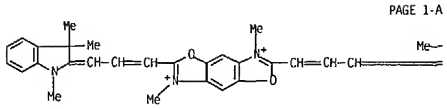
IT 25470-81-9P 25470-83-1P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 25470-81-9 CAPLUS
CN Benzo[1.2-d:4.5-d']bisoxazolium, 3.7-dimethyl-2.6-bis[3-(1.3.3-trimethyl-2-indolinylidene)propenyl]-, diperchlorate (8CI) (CA INDEX NAME)

CM 1

CRN 47853-12-3
CMF C38 H40 N4 O2

L7 ANSWER 56 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

PAGE 1-A



PAGE 1-B

CM 2

CRN 14797-73-0
CMF Cl O4

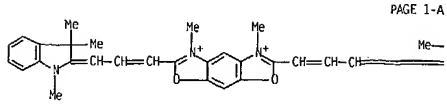
RN 25470-83-1 CAPLUS
CN Benzo[1,2-d:5,4-d']bisoxazolium, 3,5-dimethyl-2,6-bis[3-(1,3,3-trimethyl-2-indolinylidene)propenyl]-, diperchlorate (8CI) (CA INDEX NAME)

CM 1

CRN 41075-55-2
CMF C38 H40 N4 O2

L7 ANSWER 56 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

PAGE 1-A



PAGE 1-B

CM 2

CRN 14797-73-0
CMF Cl O4

L7 ANSWER 57 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN

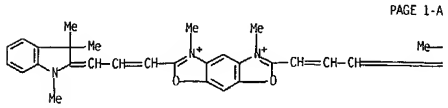
ACCESSION NUMBER: 1970:16935 CAPLUS
DOCUMENT NUMBER: 72:16935
TITLE: Electron spectra of biscyanines
AUTHOR(S): Permogorov, V. I.; Dyadyusha, G. G.; Mikhailenko, F. A.; Kiprianov, A. I.
CORPORATE SOURCE: Vses. Nauch.-Issled. Inst. Genet. Selekts. Mikroorg., Moscow, USSR
SOURCE: Doklady Akademii Nauk SSSR (1969), 188(5), 1098-101 [Phys Chem]
CODEN: DANKAS; ISSN: 0002-3264
DOCUMENT TYPE: Journal
LANGUAGE: Russian
GRAPHIC IMAGE: For diagram(s), see printed CA Issue.
ABSTRACT:
The absorption and luminescence spectra were reported for biscyanines of the types shown. in EtOH. These were supplemented by ORD spectra and circular dichroism plots for the complexes of these substances with DNA. The absorption spectra of all 3 types of dyes taken best at 120.degree.K for better resoln. showed 4 max., while luminescence spectra had 2 max. and had mirror image relation with 2 of the max. in the absorption spectra. Hence, the 1st 2 max. are vibrational transitions of the principal electro nic band and the remaining 2 bands are caused by a new electronic transiti on. The luminescence excitation spectra of these dyes are quite coincident with their absorption spectra. Excitation with polarized light generated luminescence that was distinctly polarized also; the change in the sign of polarization showed that 2 electronic transitions are involved. The mol. conformation does not change during the life of the excited state. Adsorption of the dyes on DNA resulted in asymmetrization of total structure and generation of optical activity as expected from general theory of optical activity dating back to Kuhn.

IT 25470-83-1 25479-25-8 25504-42-1
RL: PRP (Properties)
(optical properties of)
RN 25470-83-1 CAPLUS
CN Benzo[1,2-d:5,4-d']bisoxazolium, 3,5-dimethyl-2,6-bis[3-(1,3,3-trimethyl-2-indolinylidene)propenyl]-, diperchlorate (8CI) (CA INDEX NAME)

CM 1

CRN 41075-55-2
CMF C38 H40 N4 O2

PAGE 1-A



L7 ANSWER 57 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

PAGE 1-B

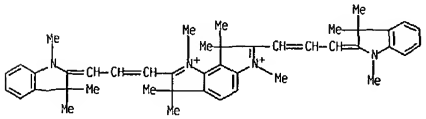
CM 2

CRN 14797-73-0
CMF Cl O4

RN 25479-25-8 CAPLUS
CN Benzo[1,2-b:3,4-b']dipyrrolium, 3,8-dihydro-1,3,3,6,8,8-hexamethyl-2,7-bis[3-(1,3,3-trimethyl-2-indolinylidene)propenyl]-, diperchlorate (8CI) (CA INDEX NAME)

CM 1

CRN 47869-38-5
CMF C44 H52 N4



CM 2

CRN 14797-73-0
CMF Cl O4

L7 ANSWER 57 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

RN 25504-42-1 CAPLUS
CN Benzo[1,2-b:5,4-b']dipyrrolium, 3,5-dihydro-1,3,3,5,5,7-hexamethyl-2,6-bis[3-(1,3,3-trimethyl-2-indolinylidene)propenyl]-, diperchlorate (8CI) (CA INDEX NAME)

CM 1

CRN 47870-37-1
CMF C44 H52 N4

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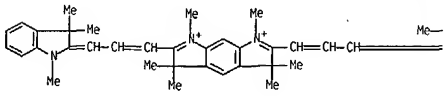


PAGE 1-B

CM 2

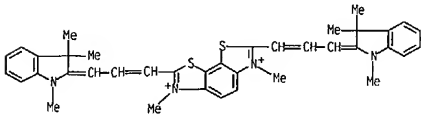
CRN 14797-73-0
CMF Cl O4

L7 ANSWER 57 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

L7 ANSWER 58 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1969:471891 CAPLUS
DOCUMENT NUMBER: 71:71891
TITLE: Absorption spectra of organic dyes containing two conjugated chromophores in a molecule
AUTHOR(S): Kiprianov, A. I.; Dyadyusha, G. G.
CORPORATE SOURCE: Inst. Org. Khim., Kiev, USSR
SOURCE: Ukrainskii Khimicheskii Zhurnal (Russian Edition) (1969), 35(6), 608-15
CODEN: UKZHAU; ISSN: 0041-6045
DOCUMENT TYPE: Journal
LANGUAGE: Russian
GRAPHIC IMAGE: For diagram(s), see printed CA Issue.
ABSTRACT:
It is argued on a qual. basis that for 2 conjugated chromophores connected in a straight line, e.g. I, an electronic vibration setting up 2 dipoles (+ -)(+ -) would correspond to the long-wavelength, low-energy, absorption of the combined chromophores. It also would produce a strong dipole and should have a large absorption coeff. On the other hand, a vibration in which the dipoles are opposed (+ -)(+ -) would correspond to the high-energy transition and the absorption band should be weak. The conclusions would be directly reversed if the conjugated chromophores were parallel as they would be if joined by an o-phenylene radial, e.g., II. Then the long-wavelength band should result in 2 parallel, but opposed, dipoles and the absorption should be weak. A math. relation is given (but not derived) for the relation between the angle formed by the 2 chromophores and the absorption max. and intensities of the dye and of the 2 corresponding dyes which represent the single chromophores. Applied to a group of cyanines, the agreement between the calcd. angle and that measured in models is stated to be satisfactory.

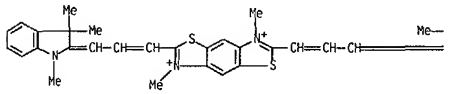
IT **21834-79-7 21839-56-5 23104-60-1**
23792-51-0
RL: PRP (Properties)
(spectrum of, mol. structure in relation to visible)
RN 21834-79-7 CAPLUS
CN Benzo[1,2-d:4,3-d']bisthiazolium, 2,7-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,6-dimethyl- (9CI) (CA INDEX NAME)



RN 21839-56-5 CAPLUS
CN Benzo[1,2-d:4,5-d']bisthiazolium, 2,6-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,7-dimethyl- (9CI) (CA INDEX NAME)

L7 ANSWER 58 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

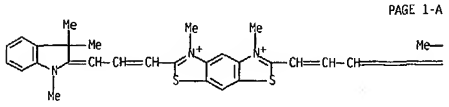
PAGE 1-A



PAGE 1-B

RN 23104-60-1 CAPLUS
CN Benzo[1,2-d:5,4-d']bisthiazolium, 2,6-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,5-dimethyl- (9CI) (CA INDEX NAME)

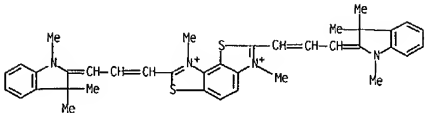
PAGE 1-A



PAGE 1-B

RN 23792-51-0 CAPLUS
CN Benzo[1,2-d:3,4-d']bisthiazolium, 2,7-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,8-dimethyl- (9CI) (CA INDEX NAME)

L7 ANSWER 58 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)



L7 ANSWER 59 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1969:404498 CAPLUS
DOCUMENT NUMBER: 71:4498
TITLE: Cyanine dyes with two conjugated chromophores. XI
AUTHOR(S): Fridman, S. G.; Kiprianov, A. I.
CORPORATE SOURCE: Inst. Org. Khim., Kiev, USSR
SOURCE: Zhurnal Organicheskoi Khimii (1969), 5(2), 373-6
CODEN: ZORKAE; ISSN: 0514-7492
DOCUMENT TYPE: Journal
LANGUAGE: Russian
GRAPHIC IMAGE: For diagram(s), see printed CA Issue.
ABSTRACT:

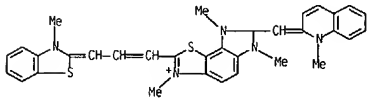
The absorption spectra of the following cyanine dyes contg. 1 or 2 conjugated chromophores were studied (general formula, R, X, Y, and Z given): I, -, S, NMe, -; I, -, NMe, S, -; II, Et, S, NMe, S; II, Me, NMe, S, S; II, Me, S, NMe, CMe2; II, Me, NMe, S, CMe2; III, Et, S, NMe, S; III, Me, NMe, S, S; III, Me, S, NMe, CMe2; III, Me, NMe, S, CMe2. There was a strong interaction between 2 conjugated chromophores if the light quanta absorbed by each sep. chromophore were similar. In such cases 2 absorption bands were present in the spectrum.

IT 23215-31-8P 23215-32-9P 23284-81-3P
23284-82-4P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

RN 23215-31-8 CAPLUS
CN 8H-Imidazo[4,5-g]benzothiazolium, 3,6,8-trimethyl-2-[3-(3-methyl-2-benzothiazolinylidene)propenyl]-7-[(1-methyl-2(1H)-quinolylidene)methyl]-, diperchlorate (8CI) (CA INDEX NAME)

CM 1

CRN 47817-26-5
CMF C33 H31 N5 S2



*** FRAGMENT DIAGRAM IS INCOMPLETE ***

CM 2

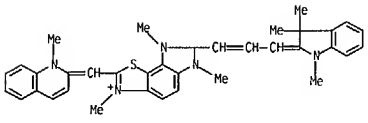
CRN 14797-73-0
CMF Cl O4

L7 ANSWER 59 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

RN 23215-32-9 CAPLUS
CN 8H-Imidazo[4,5-g]benzothiazolium, 3,6,8-trimethyl-2-[(1-methyl-2(1H)-quinolylidene)methyl]-7-[3-(1,3,3-trimethyl-2-indolinylidene)propenyl]-, diperchlorate (8CI) (CA INDEX NAME)

CM 1

CRN 47832-19-9
CMF C36 H37 N5 S



*** FRAGMENT DIAGRAM IS INCOMPLETE ***

CM 2

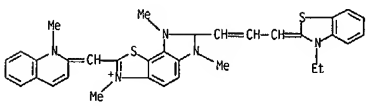
CRN 14797-73-0
CMF Cl O4

RN 23284-81-3 CAPLUS
CN 8H-Imidazo[4,5-g]benzothiazolium, 7-[3-(3-ethyl-2-benzothiazolinylidene)propenyl]-3,6,8-trimethyl-2-[(1-methyl-2(1H)-quinolylidene)methyl]-, diperchlorate (8CI) (CA INDEX NAME)

CM 1

CRN 47825-55-8

L7 ANSWER 59 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)
CMF C34 H33 N5 S2



*** FRAGMENT DIAGRAM IS INCOMPLETE ***

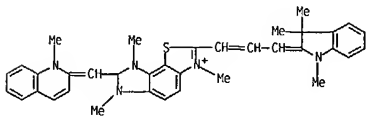
CM 2

CRN 14797-73-0
CMF Cl O4

RN 23284-82-4 CAPLUS
CN 8H-Imidazo[4,5-g]benzothiazolium, 3,6,8-trimethyl-7-[(1-methyl-2(1H)-quinolylidene)methyl]-2-[3-(1,3,3-trimethyl-2-indolinylidene)propenyl]-, diperchlorate (8CI) (CA INDEX NAME)

CM 1

CRN 47831-75-4
CMF C36 H37 N5 S



*** FRAGMENT DIAGRAM IS INCOMPLETE ***

CM 2

CRN 14797-73-0
CMF Cl O4

L7 ANSWER 59 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

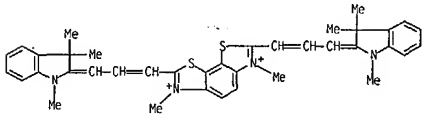
L7 ANSWER 60 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1969:79113 CAPLUS
DOCUMENT NUMBER: 70:79113
TITLE: Cyanine dyes with two conjugated chromophores
AUTHOR(S): Kiprianov, A. I.
CORPORATE SOURCE: Inst. Org. Chem., Kiev, USSR
SOURCE: Industrie Chimique Belge (1967), 32(Spec. No.), 100-2
CODEN: ICBEAJ; ISSN: 0019-9052
DOCUMENT TYPE: Journal
LANGUAGE: German
GRAPHIC IMAGE: For diagram(s), see printed CA Issue.
ABSTRACT:

The absorption spectra of cyanine dyes from isomeric benzobisthiazoles were studied, each mol. contg. 2 conjugated chromophores, e.g. I. The absorption curve of each biscyanine was compared with that of the corresponding cyanine with 1 chromophore. The absorption spectra of biscyanines with 2 polymethine chromophores of equal length always had 2 absorption bands: one 1 at longer .lambda. than the parent dye, the other at shorter .lambda., i.e., the absorption band of the parent dye was split into 2 bands in the spectrum of the biscyanine. Further, the intensity of this band was dependent on the angle between the 2 chromophores. These observations are discussed from the standpoint of electronic spectral theory.

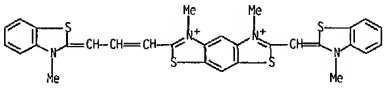
IT **21834-79-7 21839-55-4 21839-56-5**
23104-60-1
RL: PRP (Properties)
(spectrum of, visible)

RN 21834-79-7 CAPLUS
CN Benzo[1,2-d:4,3-d']bisthiazolium, 2,7-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,6-dimethyl- (9CI) (CA INDEX NAME)



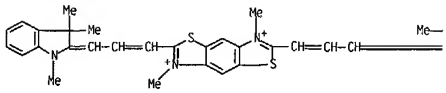
RN 21839-55-4 CAPLUS
CN Benzo[1,2-d:5,4-d']bisthiazolium, 3,5-dimethyl-2-[(3-methyl-2-benzothiazolinylidene)methyl]-6-[3-(3-methyl-2-benzothiazolinylidene)propenyl]- (8CI) (CA INDEX NAME)

L7 ANSWER 60 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)



RN 21839-56-5 CAPLUS
CN Benzo[1,2-d:4,5-d']bisthiazolium, 2,6-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,7-dimethyl- (9CI) (CA INDEX NAME)

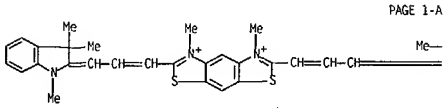
PAGE 1-A



PAGE 1-B

RN 23104-60-1 CAPLUS
CN Benzo[1,2-d:5,4-d']bisthiazolium, 2,6-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,5-dimethyl- (9CI) (CA INDEX NAME)

PAGE 1-A



L7 ANSWER 60 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

PAGE 1-B

L7 ANSWER 61 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1968:452920 CAPLUS
DOCUMENT NUMBER: 69:52920
TITLE: Cyanine dyes with two conjugated chromophores. IV
AUTHOR(S): Kiprianov, A. I.; Mushkalo, I. L.; Mikhailenko, F. A.
CORPORATE SOURCE: Inst. Org. Khim., Kiev, USSR
SOURCE: Zhurnal Organicheskoi Khimii (1967), 3(11), 2041-7
CODEN: ZORKAE; ISSN: 0514-7492
DOCUMENT TYPE: Journal
LANGUAGE: Russian
GRAPHIC IMAGE: For diagram(s), see printed CA Issue.
ABSTRACT:
In order to further investigate the splitting of the absorption bands of cyanine dyes contg. two conjugated chromophores [A. I. Kiprianov and I. L. Mushkalo (1965)], several cyanine dyes derived from 2,6-dimethylbenzo[1,2-d:5,4-d']bisthiazole (I) and from 2,6-dimethylbenzo[1,2-d:4,5-d']bisthiazole (II) were prepd. I m. 147.degree. (petroleum ether), prepd. according to the method of C. Finzi and G. Grandolini (1959) in 58% yield, was converted in 100% yield to the methiodide (III), m. 259-61.degree., and in 49% yield to the bis(Me methosulfate) (IV), m. 243-5.degree.. III treated with 2-(methylmercapto)benzothiazole (V) in abs. EtOH in the presence of Et3N gave 38% [3,6-dimethylbenzo[1,2-d:5,4-d']bisthiazole-2][3-methylbenzothiazole-2]monomethinecyanine iodide (VI), m. 305-7.degree. (decompn.) (MeNO2), .lambda.max. 434 m.mu.. III treated with 1,3,3-trimethyl-2-(formylmethylene)indoline (VII) in AcOH gave 48% [3,6-dimethylbenzo[1,2-d:5,4-d']bisthiazole-2][1,3,3-trimethylindolenine-2]trimethinecyanine iodide, m. 230-5.degree. (decompn.) (MeOH), .lambda.max. 556 m.mu.. Analogously, III and 4-Me2NC6H4CHO (VIII) gave 76% 2-[p-(dimethylamino)styryl]-6-methylbenzo[1,2-d:5,4-d']bisthiazole methiodide, m. 290.degree. (decompn.), .lambda.max. 542 m.mu., and III and 3-ethyl-2-(formylmethylene)benzothiazoline (IX) gave 29% [3,6-dimethhlbenzo[1,2-d:5,4-d']bisthiazole-2][3-ethylbenzothiazole-2]trimethinecyanine iodide, m. 260-5.degree. (decompn.) (EtOH), .lambda.max. 565 m.mu.. Under the same conditions, IV and VIII gave 81% 3,5-dimethyl-2,6-bis[p-dimethylamino)styryl]benzo[1,2-d:5,4-d']bisthiazole, m. >300.degree., .lambda.max. 626 m.mu.. III (0.24 g.) refluxed for 15 min. with 0.31 g.V.Me2SO4 and 0.2 g. Et3N in 3 cc. Ac2O and the ppt. washed with boiling EtOH and Et2O gave 29% biscyanine R1:CHR2CH:R1.2MeSO4- (X), m. >350.degree., .gamma.max. 481 and 402 m.mu.. IV (0.24 g.) added to a boiling soln. of 0.41 g. VII in 3 cc. Ac2O and the mixt. refluxed for 50 min. yielded 44% biscyanine R3:CHCHR2CH:CHCH:R3.2MeSO4- (XI), m. 330.degree. (decompn.) (EtOH), .lambda.max. 631 and 510 m.mu.. VI (0.3 g.) heated for 30 min. at 130-40.degree. with 1.8 cc. Me2SO4 and excess Me2SO4 washed out with Et2O gave nearly 100% bisquaternary salt R1:CHR2Me.2MeSO4- (XII), m. >350.degree.. XII (0.065 g.) and 0.027 g. IX in 1 cc. pyridine boiled and treated with several drops Ac2O, refluxed for 40 min., and the ppt. filtered and washed with hot H2O, EtOH, and Et2O yielded 34% biscyanine R1:CHR2CH:CHCH:R1.2MeSO4- (XIII), m. 320.degree. (decompn.), .lambda.max. 590 and 440 m.mu.. II.Me2SO4 (XIV) was obtained by heating an equimolar mixt. of II and Me2SO4 for 3 hrs. at

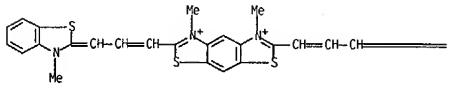
L7 ANSWER 61 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)
130.degree.. XIV heated with V in pyridine gave 67% [3,6-dimethylbenzo[1,2-d:4,5-d']bisthiazole-2][3-ethylbenzothiazole-2]monomethinecyanine methosulfate, m. 285.degree. (decompn.) (MeOH), .lambda.max. 432 m.mu.. XIV heated with VII in Ac2O, impurities (monocyanine) extd. with CHCl3, and the product treated with KBr yielded 70% [3,6-dimethylbenzo[1,2-d:4,5-d']bisthiazole-2][1,3,3-trimethylindolenine-2]trimethinecyanine bromide, m. 279.degree. (decompn.), .lambda.max. 556 m.mu.. II.2Me2SO4 (0.12 g.) refluxed for 3 hrs. with 0.2 g. VII in 10 cc. Ac2O gave 79% biscyanine R3:CHCH:CHR4CH:CHCH:R3.2MeSO4- (XV), m. >330.degree., .lambda.max. 636 (586 m.mu.. Biscyanine R1:CHR4CH:R1.2MeSO4- (XVI), .lambda.max. 485 (457) m.mu., was prepd. analogously. Splitting of the adsorption band is found in X, XI, and XIII, the short wave-length peak being one-tenth as strong as the long wave-length one. On the contrary, only a very weak short wave-length absorption peak can be observed in the case of biscyanines XV and XVI. The phenomenon is possibly due to the specific sym. of these mols.

IT **19375-13-4P 19695-86-4P 19695-88-6P**
19695-89-7P 19695-90-0P 19778-42-8P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 19375-13-4 CAPLUS
CN Benzo[1,2-d:5,4-d']bisthiazolium, 3,5-dimethyl-2,6-bis[3-(3-methyl-2-benzothiazolinylidene)propenyl]-, bis(methyl sulfate) (8CI) (CA INDEX NAME)

CM 1

CRN 21834-78-6
CMF C32 H28 N4 S4

PAGE 1-A



PAGE 1-B

L7 ANSWER 61 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

CM 2

CRN 21228-90-0
CMF C H3 O4 S

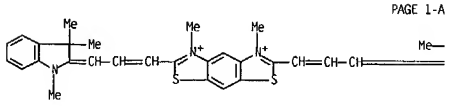
Me—O—SO3-

RN 19695-86-4 CAPLUS
CN Benzo[1,2-d:5,4-d']bisthiazolium, 2,6-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,5-dimethyl-, bis(methyl sulfate) (9CI) (CA INDEX NAME)

CM 1

CRN 23104-60-1
CMF C38 H40 N4 S2

PAGE 1-A



PAGE 1-B

CM 2

CRN 21228-90-0
CMF C H3 O4 S

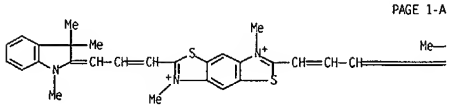
Me—O—SO3-

L7 ANSWER 61 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)
RN 19695-88-6 CAPLUS
CN Benzo[1,2-d:4,5-d']bisthiazolium, 2,6-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,7-dimethyl-, bis(methyl sulfate) (9CI) (CA INDEX NAME)

CM 1

CRN 21839-56-5
CMF C38 H40 N4 S2

PAGE 1-A



PAGE 1-B

CM 2

CRN 21228-90-0
CMF C H3 O4 S

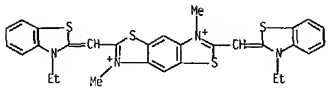
Me—O—SO3-

RN 19695-89-7 CAPLUS
CN Benzo[1,2-d:4,5-d']bisthiazolium, 2,6-bis[(3-ethyl-2-benzothiazolinylidene)methyl]-3,7-dimethyl-, bis(methyl sulfate) (8CI) (CA INDEX NAME)

CM 1

CRN 47802-13-1
CMF C30 H28 N4 S4

L7 ANSWER 61 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)



CM 2

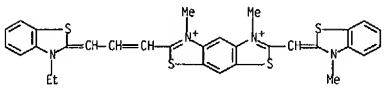
CRN 21228-90-0
CMF C H3 O4 S

Me—O—SO3-

RN 19695-90-0 CAPLUS
CN Benzo[1,2-d:5,4-d']bisthiazolium, 2-[3-(3-ethyl-2-benzothiazolinylidene)propenyl]-3,5-dimethyl-6-[(3-methyl-2-benzothiazolinylidene)methyl]-, bis(methyl sulfate) (8CI) (CA INDEX NAME)

CM 1

CRN 47812-46-4
CMF C31 H28 N4 S4



CM 2

CRN 21228-90-0
CMF C H3 O4 S

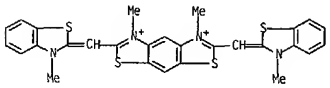
Me—O—SO3-

RN 19778-42-8 CAPLUS

L7 ANSWER 61 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)
CN Benzo[1,2-d:5,4-d']bisthiazolium, 3,5-dimethyl-2,6-bis[(3-methyl-2(3H)-benzothiazolylidene)methyl]-, bis(methyl sulfate) (9CI) (CA INDEX NAME)

CM 1

CRN 47777-09-3
CMF C28 H24 N4 S4



CM 2

CRN 21228-90-0
CMF C H3 O4 S

Me—O—SO3-

L7 ANSWER 62 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1968:452919 CAPLUS
DOCUMENT NUMBER: 69:52919
TITLE: Cyanine dyes with two conjugated chromophores. III
AUTHOR(S): Kiprianov, A. I.; Verbovskaya, T. M.; Mushkalo, I. L.
CORPORATE SOURCE: Inst. Org. Khim., Kiev, USSR
SOURCE: Zhurnal Organicheskoi Khimii (1967), 3(11), 2036-41
CODEN: ZORKAE; ISSN: 0514-7492
DOCUMENT TYPE: Journal
LANGUAGE: Russian
GRAPHIC IMAGE: For diagram(s), see printed CA Issue.
ABSTRACT:

Interaction of two conjugated chromophores in biscyanine dyes derived from 2,7-dimethylbenzo[1,2-d:3,4-d']bisthiazole (I) or 2,7-dimethylbenzo[1,2-d:3,4-d']bisthiazole (II) splits the absorption band of the parent monocyanine into two bands. I (m. 101.degree.), prepd. according to the method of A. Green and A. Perkin (1903) was converted to the Me tosylate (III) by heating at 135.degree. for 20 min. with 4-MeC6H4SO3Me (IIIa). The perchlorate salt, m. 298.degree. (decompn.) was obtained from III by treating with NaClO4. I heated for 30 min. at 140.degree. with excess IIIa, extd. with Me2CO, and treated with KI gave I dimethiodide as colorless platelets, m. 301.degree.. II (m. 106.degree.) was prepd. according to the method of S. Edge (1922) was converted to II.Me2SO4 (IV), m. 228.degree., by heating for 30 min. with Me2SO4 in PhMe. IV treated with KI gave II.MeI, m. 236.degree. (decompn.). II heated for 1 hr. at 120.degree. with excess Me2SO4 gave II.2Me2SO4 (IVa), which was treated with KI to give II.2MeI, m. 260-2.degree.. III (0.4 g.) refluxed for 10 min. with 0.36 g. 2-(methylmercapto)-benzothiazole Me tosylate, 5 cc. Ac2O, and 5 drops Et3N gave 56% [3,7-dimethylbenzo[1,2-d:4,3-d']bisthiazole-2][3-methyl-benzothiazole-2]methinecyanine tosylate, yellow platelets, m. 281.degree. (EtOH), .lambda.max. 437 m.mu.. III (0.2 g.) refluxed for 10 min. with 0.12 g. 2-formyl-3-methylbenzothiazoline in 5 cc. Ac2O, the dye pptd. with Et2O, and treated with NaClO4 gave 52% [3,7-dimethylbenzo[1,2-d:4,3-d']bisthiazole-2] [3-methylbenzothiazole-2]trimethinecyanine perchlorate (V), dark violet platelets, m. 268.degree. (decompn.) (EtOH), .lambda.max. 570 m.mu.. Analogously, 0.2 g. III and 0.1 g. 1,3,3-trimethyl-2-(formylmethylene)indoline (VI) gave 88% [3,7-dimethylbenzo[1,2-d:4,3-d']bisthiazole-2][1,3,3-trimethylindolenine-2]trimethinecyanine perchlorate, dark violet platelets, m. 273.degree. (EtOH), .lambda.max. 560 m.mu.. 2,3,3-Trimethylindolenine Me perchlorate (0.5 g.) refluxed for 15 min. with 1 mole [(EtO)2CH]2CH2 in Ac2O, the Ac2O, the Ac2O vacuum evapd., 1 mole III and pyridine added to the residue, and the mixt. boiled gave a mixt. of sym. indolecarbocyanine perchlorate (.lambda.EtOHmax. 646 m.mu.) and [3,7-dimethylbenzo[1,2-d:4,3-d']bisthiazole-2][1,3,3-trimethylindolenine-2]pentamethinecyanine perchlorate (.lambda.EtOHmax. 657 m.mu.). III refluxed with 4-Me2NC6H4CHO (VII) in Ac2O and treated with NaClO4 gave 3,7-dimethyl-2(p-dimethylaminostyryl)thiazolo[4,5-g]benzothiazolium perchlorate, violet platelets, m. 360.degree. (decompn.), .lambda.max. 544 m.mu.. 1,2IIIa (VIII) (0.3 g.) refluxed for 5 min. with 2 moles 2-(methylmercapto)benzothiazole Me methosulfate and 5 drops Et3N in Ac2O gave 41% biscyanine R1:CHR2CH:R1,2p-MeC6H4SO3-, yellow platelets, m. >360.degree., .lambda.max. 406 and 474 m.mu.. A soln. of 0.7 g. IVa and 2 moles 2-(formylmethylene)-3-methylbenzothiazoline (IX) in a mixt. of pyridine and

L7 ANSWER 62 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

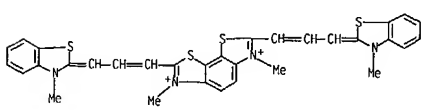
Ac2O refluxed for 1.5 hrs. and the ppt. extd. with C6H6 and MeNO2 to remove impurities gave 21% biscyanine R1:CHCH:CHR2CH:CHCH:R1,-2MeSO4-,m. >360.degree., .lambda.max. 513 and 632 m.mu.. A soln. of 0.2 g. IVa in a mixt. of Ac2O and pyridine refluxed for 10 min. with 2 moles VI and treated with NaClO4 yielded 60% biscyanine R3:CHCH:CHR2CH:CHCH:R3.2ClO4-, blue platelets, m. 246.degree. (decompn.) (EtOH), .lambda.max. 507 and 623 m.mu.. VIII (0.3 g.) refluxed with 2 moles PhN:CHCH:CHNHPh.HCl in Ac2O, 2 moles of 1,3,3-trimethylindolenine methochloride added, the mixt. refluxed for 5 min., the dye pptd. with Et2O, purified by chromatog. on Al2O3 (in CHCl3), and treated with NaClO4 gave 14% biscyanine R3:CH(CH:CH)2R2(CH:CH)2CH:R3.2ClO4-,m. >360.degree., .lambda.max. 592 and 753 m.mu.. VIII (0.2 g.) refluxed for 20 min. with 2 moles VII in Ac2O, pptd. with Et2O, and treated with KI gave 89% bisstyryl deriv, Me2NC6H4CH:CHR2CH:CHC6H4NMe2.2I-, .lambda.max. 522 and 616 m.mu., m. 269.degree. (decompn.) (EtOH). IV yielded 38% [3,7-dimethylbenzo[1,2-d:3,4-d']bisthiazole-2][3-ethylbenzothiazole-2]trimethinecyanine perchlorate m. 290.degree.. .lambda.max. 566 m.mu.. Analogously, 0.25 g. IV and VI gave 48% [3,7-dimethylbenzo[1,2-d:3,4-d']bisthiazole-2][1,3,3-trimethylindolenine-2]trimethinecyanine perchlorate, m. 282.degree., .lambda.max. 552 m.mu.. IV (0.12 g.) refluxed for 30 min. with 2 moles IX in Ac2O-pyridine soln., treated with NaClO4, and the ppt. washed with H2O, EtOH, and Et2O gave 36% biscyanine R':CHCH:CHR4CH:CHCH:R1.2ClO4-, m. 270.degree. (decompn.), .lambda.max. 520 and 600 m.mu.. Similarly to X, 0.23 g. IV and VI gave 53% biscyanine R3:CHCH:CHR4CH:CHCH:R3.2ClO4-, m. 238.degree. (decompn.), .lambda.max. 512 and 594 m.mu..

IT **19695-74-0P 19695-75-1P 19695-76-2P**
19695-80-8P 19695-81-9P 19695-82-0P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

RN 19695-74-0 CAPLUS
CN Benzo[1,2-d:4,3-d']bisthiazolium, 3,6-dimethyl-2,7-bis[3-(3-methyl-2-benzothiazolinylidene)propenyl]-, bis(methyl sulfate) (8CI) (CA INDEX NAME)

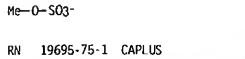
CM 1

CRN 47818-23-5
CMF C32 H28 N4 S4



CM 2

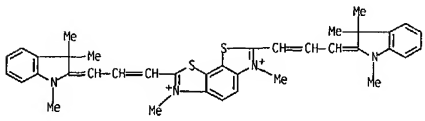
L7 ANSWER 62 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)
CRN 21228-90-0
CMF C H3 O4 S



RN 19695-75-1 CAPLUS
CN Benzo[1,2-d:4,3-d']bisthiazolium, 2,7-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,6-dimethyl-, diperchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 21834-79-7
CMF C38 H40 N4 S2



CM 2

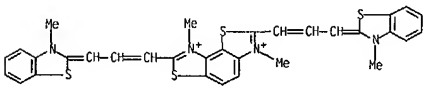
CRN 14797-73-0
CMF Cl O4

RN 19695-76-2 CAPLUS
CN Benzo[1,2-d:4,3-d']bisthiazolium, 3,6-dimethyl-2,7-bis[5-(1,3,3-trimethyl-2-indolinylidene)-1,3-pentadienyl]-, diperchlorate (8CI) (CA INDEX NAME)

CM 1

CRN 47869-97-6

L7 ANSWER 62 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)



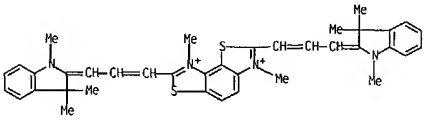
CM 2

CRN 14797-73-0
CMF Cl O4

RN 19695-81-9 CAPLUS
CN Benzo[1,2-d:3,4-d']bisthiazolium, 2,7-bis[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,8-dimethyl-, diperchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 23792-51-0
CMF C38 H40 N4 S2



CM 2

CRN 14797-73-0
CMF Cl O4

L7 ANSWER 62 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)
CMF C42 H44 N4 S2

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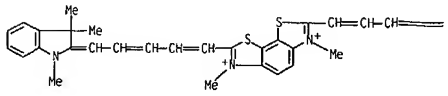
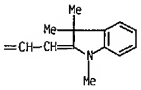


PAGE 1-B



CM 2

CRN 14797-73-0
CMF Cl O4

RN 19695-80-8 CAPLUS
CN Benzo[1,2-d:3,4-d']bisthiazolium, 3,8-dimethyl-2,7-bis[3-(3-methyl-2-benzothiazolinylidene)propenyl]-, diperchlorate (8CI) (CA INDEX NAME)

CM 1

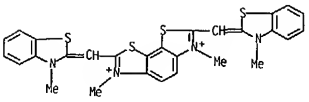
CRN 47817-35-6
CMF C32 H28 N4 S4

L7 ANSWER 62 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

RN 19695-82-0 CAPLUS
CN Benzo[1,2-d:4,3-d']bisthiazolium, 3,6-dimethyl-2,7-bis[(3-methyl-2-benzothiazolinylidene)methyl]-, di-p-toluenesulfonate (8CI) (CA INDEX NAME)

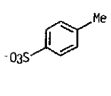
CM 1

CRN 48232-80-0
CMF C28 H24 N4 S4



CM 2

CRN 16722-51-3
CMF C7 H7 O3 S



L7 ANSWER 63 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1968:452059 CAPLUS
DOCUMENT NUMBER: 69:52059
TITLE: Reactivity of the 2- and 6-methyl substituents in the bis(quaternary salts) of 2,6-dimethylbenzo [1,2:5,4] bisthiazole. Synthesis of derivatives with two conjugated polymethine groups
AUTHOR(S): Lochon, Pierre; Meheux, Patrice; Neel, Jean
CORPORATE SOURCE: Ecole Nat. Super. Ind. Chim., Nancy, Fr.
SOURCE: Bulletin de la Societe Chimique de France (1968), (3), 1093-8
CODEN: BSCFAS; ISSN: 0037-8968
DOCUMENT TYPE: Journal
LANGUAGE: French
GRAPHIC IMAGE: For diagram(s), see printed CA Issue.
ABSTRACT:
A soln. of 12 g. 6-chlorobenzothiazole in 25 ml. trichloroethylene was heated to boiling and mixed with 10 g. Me2SO4 to give 75% 2,3-dimethyl-6-chlorobenzothiazolium methyl sulfate (I). m. 170.degree.. Similarly prepd. was 2,3-dimethyl-.beta.-naphthothiazolium methyl sulfate. m. 170.degree.. A soln. of 2.6 g. bis(p-chlorophenyl)formamidine and 3.1 g. I in Ac2O at 80.degree. was kept 2 hrs. at 80.degree. to give 80% 2-(p-chlorophenyliminoethylidene)-6-chloro-3-methylbenzothiazoline, m. 167.degree.. Similarly prepd. were 2-(p-chlorophenyliminoethylidene)-3-methyl-.beta.-naphthothiazoline, m. 221.degree., and 2-(p-chlorophenyliminoethylidene)-3,6-dimethylbenzothiazoline[1,2:5,4]thiazole (II). m. 244.degree.. A soln. of 0.002 mole of the methyl sulfate of II in 15 ml. alc. was mixed with a slight excess of p-Me2NC6H4CHO and boiled 1 hr. to give 50% III (R = CH:CHC6H4NMe2-p, R1 = Me, n = 1, X = Me2SO4), m. 280.degree.. Similarly prepd. were III (R = R1 = CH:CHC6H4NMe2-p, n = 2, X = Me2SO4, m. 325.degree., III (R = CH:CHC6H4Cl-p, R1 = Me, n = 1, X = Me2SO4), m. >350.degree., and III (R = R1 = CH:CHC6H4Cl-p, n = 2, X = Me2SO4), m. 325.degree.. A soln. of 2 g. of the bis(methyl sulfate) (IV) of 2,3,5,6-tetramethylbenzo[1,2:5,4]bisthiazole in 5 ml. Ac2O at 70.degree. was mixed with 0.02 mole bis(p-chlorophenyl)formamidine in 4 ml. Ac2O and the mixt. was maintained 2 hrs. at 70.degree. to give 45% 2,6-bis-(p-chlorophenyliminoethylidene)-3,5-dimethylbenzo[1,2:5,4]bis-thiazoline, m. 290.degree.. A soln. of 0.002 mole IV in a min. of HOAc was mixed with a 10% excess of the appropriate anilinovinyl compd., heated to 70.degree., mixed with 10 ml. Ac2O, and allowed to react 5 min. to give 45% V (X = o-C6H4), m. >300.degree.. Similarly prepd. were V (X = 4-chloro-1,2-phenylene), decompg. >300.degree., V (X = 1,2-naphthyl), m. >300.degree., and V (X = 2-methyl-5,6-benzothiazoline), m. >300.degree.. Spectral data is tabulated.

IT **19375-14-5P 19375-15-6P 19543-68-1P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 19375-14-5 CAPLUS

L7 ANSWER 63 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

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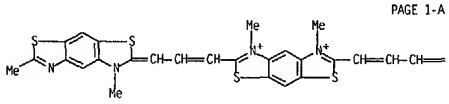
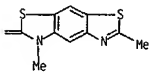


PAGE 1-B



CM 2

CRN 21228-90-0
CMF C H3 O4 S

Me-O-SO3-

RN 19543-68-1 CAPLUS
CN Benzo[1,2-d:5,4-d']bisthiazolium, 3,5-dimethyl-2,6-bis[3-(1-methylnaphtho[1,2-d]thiazol-2(1H)-ylidene)-1-propenyl]-, bis(methyl sulfate) (9CI) (CA INDEX NAME)

CM 1

CRN 47869-69-2
CMF C40 H32 N4 S4

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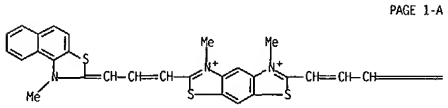
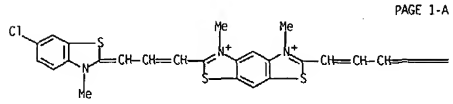


L7 ANSWER 63 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)
CN Benzo[1,2-d:5,4-d']bisthiazolium, 2,6-bis[3-(6-chloro-3-methyl-2(3H)-benzothiazolylidene)-1-propenyl]-3,5-dimethyl-, bis(methyl sulfate) (9CI) (CA INDEX NAME)

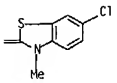
CM 1

CRN 47834-68-4
CMF C32 H26 Cl2 N4 S4

PAGE 1-A



PAGE 1-B



CM 2

CRN 21228-90-0
CMF C H3 O4 S

Me-O-SO3-

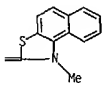
RN 19375-15-6 CAPLUS
CN Benzo[1,2-d:5,4-d']bisthiazolium, 2,6-bis[3-(3,6-dimethylbenzo[1,2-d:5,4-d']bisthiazol-2(3H)-ylidene)propenyl]-3,5-dimethyl-, bis(methyl sulfate) (8CI) (CA INDEX NAME)

CM 1

CRN 47870-73-5
CMF C36 H30 N6 S6

L7 ANSWER 63 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

PAGE 1-B



CM 2

CRN 21228-90-0
CMF C H3 O4 S

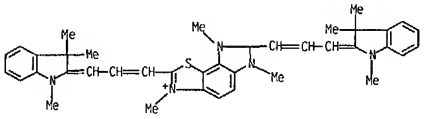
Me-O-SO3-

L7 ANSWER 64 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1968:420394 CAPLUS
DOCUMENT NUMBER: 69:20394
TITLE: Cyanine dyes with two conjugated chromophores. VI
AUTHOR(S): Fridman, S. G.; Kipiranov, A. I.
CORPORATE SOURCE: Inst. Org. Khim., Kiev, USSR
SOURCE: Zhurnal Organicheskoi Khimii (1968), 4(4), 696-703
CODEN: ZORKAE; ISSN: 0514-7492
DOCUMENT TYPE: Journal
LANGUAGE: Russian
GRAPHIC IMAGE: For diagram(s), see printed CA Issue.
ABSTRACT:
The following cyanine dyes were prepd. (dye and .lambda. max. in m.mu. given): Q:CHCH:CHXX'Me, 556; Q:CHCH:CHX'XMe, 464; R:CHCH:CHXX'Me, 562; R:CHCH:CHX'XMe, 500; R:CHCH:CHYY'Me, 564; R:CHCH:CHY'YMe, 532; Q:CHCH:CHZH, 516; R:CHCH:CHZH, 533; Q:CHCH:CHXX'CH:Q, 570 and 476; R:CHCH:CHXX'CH:CHCH:R, 566 and 496; R:CHCH:CHYY'CH:CHCH:R, 590 and 500; Q:CHCH:CHZCH:CHCH:Q 560 and 458; R:CHCH:CHZCH:CHCH:R, 600 and 470.

IT **19593-68-1P 19593-69-2P 19669-83-1P**
19669-84-2P 21416-27-3P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 19593-68-1 CAPLUS
CN 6H-Imidazo[4,5-g]benzothiazolium, 3,6,8-trimethyl-2,7-bis[3-(1,3,3-trimethyl-2-indolinylidene)propenyl]-, diperchlorate (8CI) (CA INDEX NAME)

CM 1

CRN 47857-60-3
CMF C39 H43 N5 S



*** FRAGMENT DIAGRAM IS INCOMPLETE ***

CM 2

CRN 14797-73-0

L7 ANSWER 64 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)

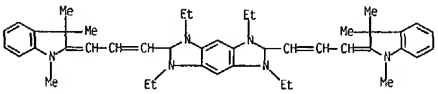
CM 2

CRN 14797-73-0
CMF Cl O4

RN 19669-84-2 CAPLUS
CN Benzo[1,2-d:4,5-d']diimidazolium, 1,3,5,7-tetraethyl-3,5-dihydro-2,6-bis[3-(1,3,3-trimethyl-2-indolinylidene)propenyl]-, diperchlorate (8CI) (CA INDEX NAME)

CM 1

CRN 50569-85-2
CMF C44 H54 N6



*** FRAGMENT DIAGRAM IS INCOMPLETE ***

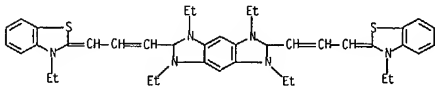
CM 2

CRN 14797-73-0
CMF Cl O4

RN 21416-27-3 CAPLUS
CN 6H-Imidazo[4,5-g]benzothiazolium, 3,8-diethyl-2,7-bis[3-(3-ethyl-2-benzothiazolinylidene]propenyl]-6-phenyl-, diperchlorate (8CI) (CA INDEX NAME)

L7 ANSWER 64 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)
CMF Cl O4

RN 19593-69-2 CAPLUS
CN Benzo[1,2-d:4,5-d']diimidazolium, 1,3,5,7-tetraethyl-2,6-bis[3-(3-ethyl-2-benzothiazolinylidene)propenyl]-3,5-dihydro-, diiodide (8CI) (CA INDEX NAME)

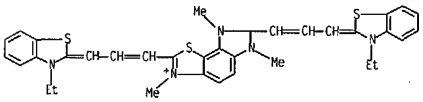


●2 I-

*** FRAGMENT DIAGRAM IS INCOMPLETE ***
RN 19669-83-1 CAPLUS
CN 6H-Imidazo[4,5-g]benzothiazolium, 2,7-bis[3-(3-ethyl-2-benzothiazolinylidene)propenyl]-3,6,8-trimethyl-, diperchlorate (8CI) (CA INDEX NAME)

CM 1

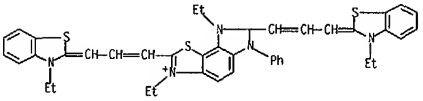
CRN 47843-60-7
CMF C35 H35 N5 S3



*** FRAGMENT DIAGRAM IS INCOMPLETE ***

L7 ANSWER 64 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)
CM 1

CRN 50569-84-1
CMF C42 H41 N5 S3



*** FRAGMENT DIAGRAM IS INCOMPLETE ***

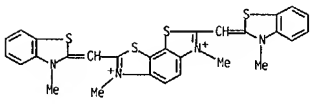
CM 2

CRN 14797-73-0
CMF Cl O4

L7 ANSWER 65 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1968:68919 CAPLUS
DOCUMENT NUMBER: 68:68919
TITLE: Synthesis and structure of the isomeric benzobisthiazoles
AUTHOR(S): Kiprianov, A. I.; Mikhailenko, F. A.
CORPORATE SOURCE: Inst. Org. Khim., Kiev, USSR
SOURCE: Khimiya Geterotsiklicheskikh Soedinenii (1967), (2), 270-6
CODEN: KGSSAQ; ISSN: 0132-6244
DOCUMENT TYPE: Journal
LANGUAGE: Russian
GRAPHIC IMAGE: For diagram(s), see printed CA Issue.
ABSTRACT:
It was found, that the structure I (R = Me) for dimethylbenzobisthiazole prepd. according to Greene and Perkin (1903) and Kiprianov, et al. (1956), is incorrect and isomeric angular structure II (R = Me) was proposed. II (R = Me), m. 101.degree. (benzene), hydrate m. 121.degree. (EtOH), dimethosulfate (obtained in 77% yield by 20 min. heating of II (R = Me) with Me2SO4, was alternatively prepd. in 75% yield by stepwise addn. of 0.88 g. 2-methyl-6-amino-7-isothiocyanobenzothiazole to a soln. of 2 g. Na2S in 5 cc. H2O at 60-70.degree., filtering, adding 5 cc. Ac2O, refluxing 3 hrs., neutralization with NH3, washing with H2O, and drying at 110.degree. in vacuo. For comparison I (R = Me), m. 227.degree. (benzene), dimethosulfate m. 270.degree. (aq. EtOH) (decompn.), was prepd. in 5.8% yield by diazotization of 12 g. 2-methyl-5-amino-6-nitrobenzothiazole (III) in 5 cc. aq. HCl (1:1) with 3.5 g. NaNO3 in 10 cc. H2O at -3 to -5.degree., simultaneous addn. of diazotized III and 9 cc. H2O, 40% aq. NaOH to Na2S2 (from 15 g. Na2S and 2.1 g. S) in 50 cc. H2O, 3 hrs. keeping at 0.degree., heating to 70.degree., filtering, washing, and drying of crude disulfide IV (11.4 g.); IV was reduced by refluxing with 14 g. powd. Zn and 19 cc. concd. HCl in 57 cc. AcOH 0.5 hr. Then 19 cc. Ac2O and 40 cc. benzene were added, the mixt. refluxed 3 hrs., the benzene removed, the residue basified with NaOH, the ppt., centrifuged, dried, and extd. with CHCl3, the CHCl3 ext. distd., the residue treated with 50 cc. 10% HCl, the soln. neutralized with NH3 and I (R = Me) purified by chromatog. of its CHCl3 soln. on alumina. The dipole moment, of I (R = Me) and II (R = Me) was 0 and 2.7 D, resp. Ir and uv spectra of II (R = Me), exhibits the peak at 813 cm.-1 typical for ortho-substituted benzene ring. For diamino deriv. of benzobisthiazoles prepd. according to Stephens and Wibberly (1950) and Stephens and Alicot (CA 55: 17023), angular structure II (R = NHMe was also proposed. The reaction mechanism of the latter synthesis was given. The structure II (R = NHMe) was confirmed by 15 min. fusion of 10 g. diamino deriv. with 24 g. NaOH, 24 g. KOH, and 12 g. Na2S at 220.degree. and subsequent acetylation of the decompn. product with 200 cc. Ac2O during 20 min. to 2-methyl-6-acetylamino-7-acetylthiobenzothiazole, m. 189.degree. (benzene), which was converted with 30 cc. refluxing 50% H2SO4 to II (R = Me) (total yield 39%). The bis(methylthio) deriv. of benzobisthiazole was prepd. in 40% yield according to Du Pont Film

L7 ANSWER 65 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)
CM 1

CRN 48232-80-0
CMF C28 H24 N4 S4



CM 2

CRN 21228-90-0
CMF C H3 O4 S

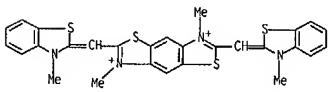
Me—O—SO3-

L7 ANSWER 65 OF 65 CAPLUS COPYRIGHT 2003 ACS on STN (Continued)
Mfg. Corp. [U.S. 2,202,990 (1937)] and from the ir spectrum (a peak at 810 cm.-1) the structure was revised from I (R = SMe) to II (R = SMe). II (R = SMe) gave by 5 min. refluxing of the crude II (R = SMe) dimethosulfate (obtained by 8 hrs. heating of 0.29 g. II (R = SMe) with 1 g. (MeO)2SO2 at 160.degree.) with 0.8 g. 2-methylbenzothiazole methyl methosulfate in 20 cc. pyridine 62% bicyanine (V). Alternatively, V was obtained by 10 min. heating of 0.24 g. II (R = Me) dimethosulfate with 0.45 g. 2-(methylthio)benzothiazole methyl methosulfate (VI) in 5 cc. Ac2O in the presence of 5 drops of Et3N. Biscyanine (VII), m. above 360.degree., was prepd. in 49% yield by 2 min. refluxing of 0.047 g. I (R = Me) dimethosulfate with 0.12 g. VI in 2 cc. pyridine. Uv spectra of V and VII in 2:1 EtOH-HCO2H were recorded.

IT **18763-52-5P 41062-87-7P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 18763-52-5 CAPLUS
CN Benzo[1,2-d:4,5-d']bisthiazolium, 3,7-dimethyl-2,6-bis[(3-methyl-2(3H)-benzothiazolylidene)methyl]-, bis(methyl sulfate) (9CI) (CA INDEX NAME)

CM 1

CRN 47777-07-1
CMF C28 H24 N4 S4



CM 2

CRN 21228-90-0
CMF C H3 O4 S

Me—O—SO3-

RN 41062-87-7 CAPLUS
CN Benzo[1,2-d:4,3-d']bisthiazolium, 3,6-dimethyl-2,7-bis[(3-methyl-2(3H)-benzothiazolylidene)methyl]-, bis(methyl sulfate) (9CI) (CA INDEX NAME)

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COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	295.64	592.97

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-42.32	-42.32

STN INTERNATIONAL LOGOFF AT 10:49:57 ON 23 SEP 2003